

# SUPPLEMENT.

## The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

24200

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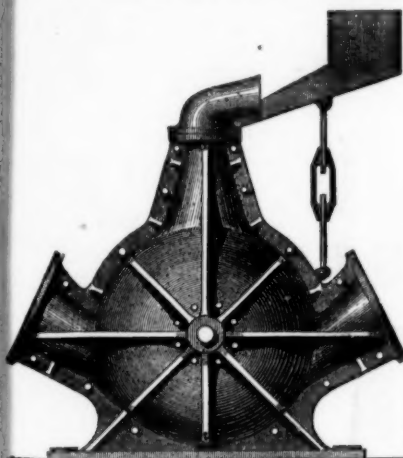
No. 2500.—Vol. LII

LONDON, SATURDAY, JANUARY 7, 1882.

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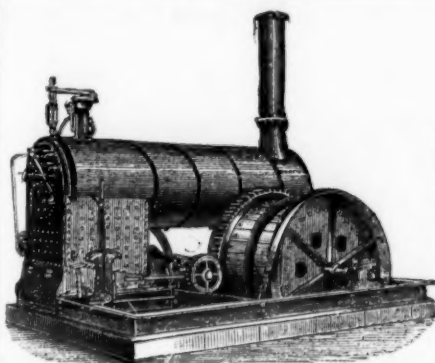


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MEDALS AND HIGHEST AWARDS.

American Institute, 1872.  
American Institute, 1873.  
London International Exhibition, 1874.  
Manchester Scientific Society, 1875.  
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Royal Cornwall Polytechnic, 1875.  
Rio de Janeiro Exhibition, 1875.  
Australia Brisbane Exhibition, 1876.  
Philadelphia Exhibition, 1876.  
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**NORMANDY AIR COMPRESSOR.**

THESE PATENT MACHINES ARE VALVELESS.

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	Inches.	min. sec.
Normandy Rock Drill and Air Compressor, bored	1 1/4 x 10 1/2	2 10
Eclipse Rock Drill and Reliance Air Compressor	1 3/4 x 10 1/2	2 25
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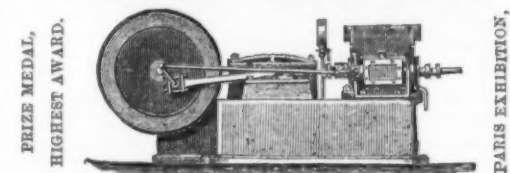
Their DRILLS have most satisfactorily stood the TEST of LONG and CONTINUOUS WORK in the HARDEST KNOWN ROCK in numerous mines in Great Britain and other countries, clearly proving their DURABILITY and POWER.

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**"RELIANCE" AIR-COMPRESSOR**



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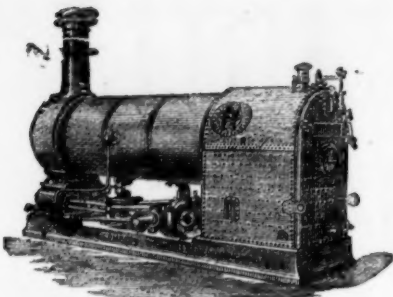


HIGHEST AWARD MELBOURNE EXHIBITION, 1881.  
**ROBEY & CO., ENGINEERS, LINCOLN.**

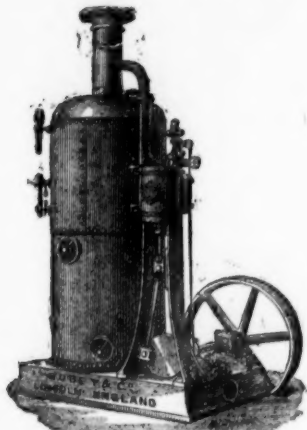
**NOTICE.**

TO COLLIERY PROPRIETORS, MINE OWNERS, &c.

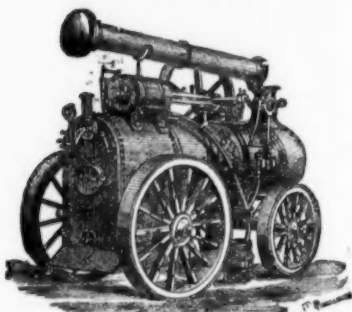
**The Patent "Robey" Mining Engine**



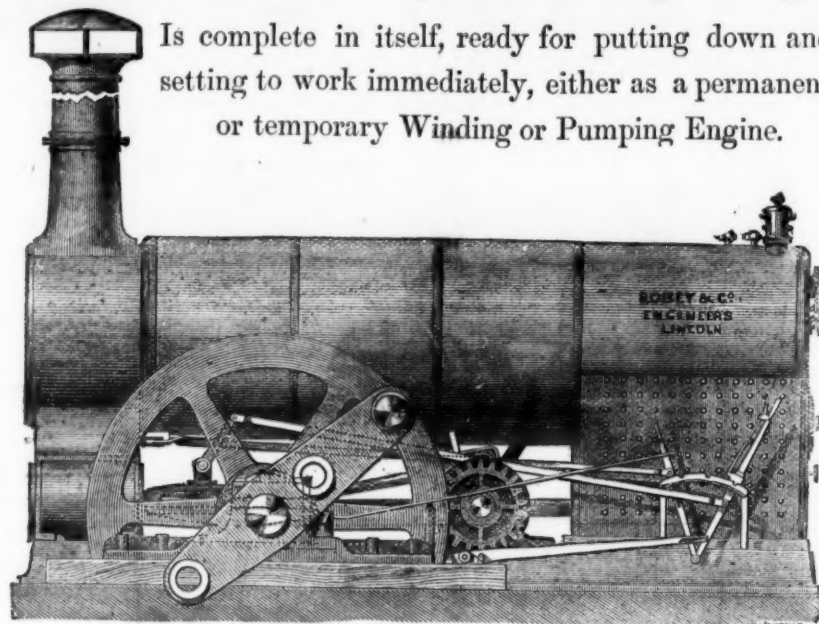
THE PATENT ROBEY FIXED ENGINE AND LOCOMOTIVE BOILER COMBINED  
4 to 50-horse power.



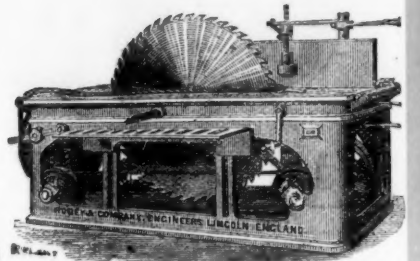
VERTICAL STATIONARY STEAM ENGINE AND PATENT BOILER COMBINED,  
1½ to 16 horse power.



SUPERIOR PORTABLE ENGINES,  
4 to 50-horse power.



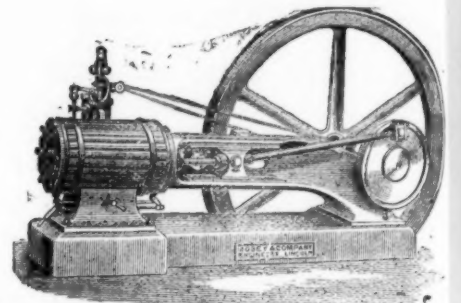
Is complete in itself, ready for putting down and setting to work immediately, either as a permanent or temporary Winding or Pumping Engine.



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HORIZONTAL FIXED ENGINES,  
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ALL SIZES KEPT IN STOCK, FROM 6 TO 50-H.P. NOMINAL.

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**CORRUGATED FURNACE FLUES,**

NOW APPLIED TO OVER

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PARIS, 1878

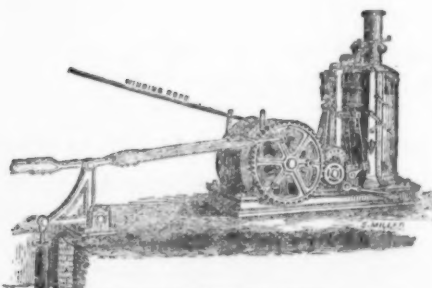


PRICE LISTS AND PARTICULARS ON APPLICATION.

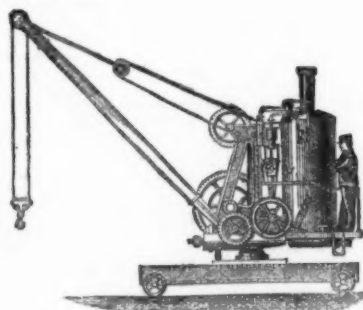
**CHAPLINS' PATENT PORTABLE STEAM ENGINES AND BOILERS**

PRIZE MEDAL, INTERNATIONAL EXHIBITION.

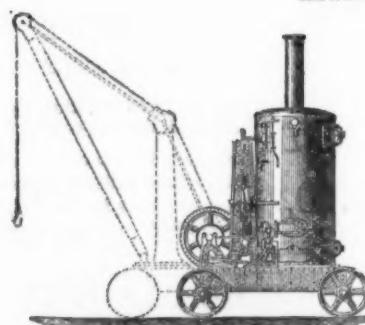
ALWAYS IN STOCK OR IN PROGRESS.



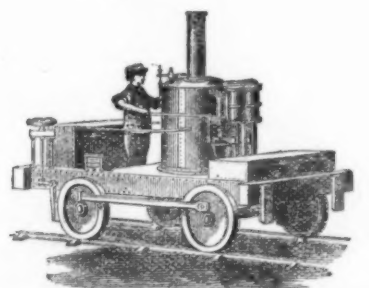
PUMPING AND WINDING ENGINE.  
6 to 30 horse-power. Portable or Fixed.  
With One or Two Drums, suited for Pit Sinking, &c.



STEAM CRANE.  
Portable or Fixed, 1 to 20 tons.  
For Wharf or Railway.



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To hoist from 10 cwt. to 15 tons direct.  
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Gauge from about 2½ feet upwards.

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Parties are cautioned against using or purchasing imitations or infringements of these Patent Manufactures.



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1<sup>ST</sup> SILVER MEDAL.

MINING INSTITUTE OF CORNWALL. 1881.

This machine has been constructed after a long practical experience in the requirements necessary for Cornish mines. The result has more than realised our expectations. Our chief objects in view were GREATER DURABILITY and LESS LIABILITY TO DISARRANGEMENT, but it has also proved itself MORE EFFECTIVE. (Vide Report.)

MINING INSTITUTE OF CORNWALL.

CAMBORNE, 8TH DECEMBER, 1881.

SIR,—Having been requested by the Council to superintend the Rock Drilling Machine Contest, held at Dolcoath Mine to-day in connection with the above Institute, I beg to hand you the following report:—  
The competing machines were the "Barrow," the "Cornish," and the "Eclipse"—each was fixed on the same mounting bar, and bored into the same stone. The result of the boring were as follows:—

Name of Machine.	Diameter of cylinder.	Diameter of Drill.	Time boring.	Depth bored.	Cubic inches of ground cut.	Cubic inches cut per minute.	Mean pressure per square inch.	Remarks.
Cornish.....	3½	1½	1 15	4½	14.1	—	—	
".....	—	1½	55	9	21.6	—	—	
Total.....	3½	—	2 10	13½	35.7	16.4	61	
Eclipse.....	3½	2	40	—	—	—	—	} Ran into Cornish hole; hole not properly watered.
" second try.....	—	—	2 0	1	3.1	—	—	
" third try.....	3½	2	2 35	11½	35.3	13.6	60	
Barrow.....	4	1½	15	—	1.2	—	—	Gland to mounting bar broke.
".....	—	—	2 0	8½	19.18	—	—	
Total.....	4	1½	2 15	8½	21.0	9.3	60	

I am, Sir, your obedient servant,  
To R. H. Williams, Esq., C.E., President of the Mining Institute of Cornwall.

JAMES HOSKING, M.E.

Address—

**HOLMAN BROS.,**

CAMBORNE FOUNDRY AND ENGINE-WORKS, CAMBORNE, CORNWALL.

ESTABLISHED 1852.

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Cast Steel, Shear, Blister, Spring, Hammer, and Pick Steel.

**Special Rock Drill Steel.**

Mining Tools, Files, Saws, Hammers, and Picks.

**CANNON STEEL WORKS, SHEFFIELD.**

## The Only Knapping Motion Stone Breaker and Ore Crusher.

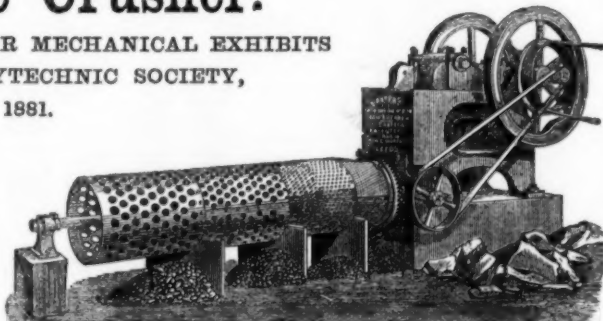
AWARDED THE ONLY SILVER MEDAL FOR MECHANICAL EXHIBITS  
AT THE ROYAL CORNWALL POLYTECHNIC SOCIETY,  
FALMOUTH, SEPT., 1881.

READ THIS—

Enderby Granite Quarry, Sept. 23, 1881.

SIR,—In answer to your enquiry respecting your 12 by 8 Stone Breaker, we break on an average 60 tons of stone per day. The percentage in chippings and dust is under 10 per cent., which we consider is extremely small, considering the size we break our stone to, the machine making 60 per cent. X X, or 1½. The driving shaft never gets hot. We can work it the ten hours without stopping.

Yours truly,  
RAWSON AND RAWSON.



GUARANTEED NO INFRINGEMENT OF ANY OTHER PATENT.

These Machines turn out the same amount of work with less than half the power, and make a better sample of Road Metal, with 50 per cent. less waste, than any other machinery, and for Crushing Purposes they are still more advantageous, as the sudden action entirely dispenses with the clogging when used for crushing softer materials, and thereby saves many breakages and a great waste of power. There is also a saving of fully 75 per cent. of lubrication required over the Blake Machine, and as a proof of this, our driving shaft never becomes heated. We are also prepared to guarantee our driving shaft from breakage in any of our Knapping Motion Stone Breakers.

We have already supplied our Machines to Derby, Harrogate, and Falmouth Local Authorities; besides several Quarry Owners, Contractors, Plaster Manufacturers, &c.

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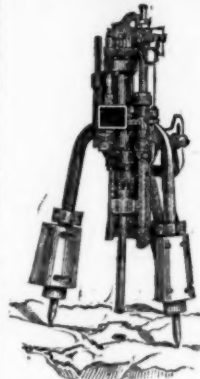
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THE AQUEOUS WORKS AND DIAMOND ROCK-BORING COMPANY (LIMITED).

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To prevent over winding

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To suspend in Shaft in cases of fracture of Winding Rope,

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References: A. L. ELDER, Esq., Bishopsgate-street; A. J. SCRUTTON, Esq., Stock Exchange; and Editor of the MINING JOURNAL, London.

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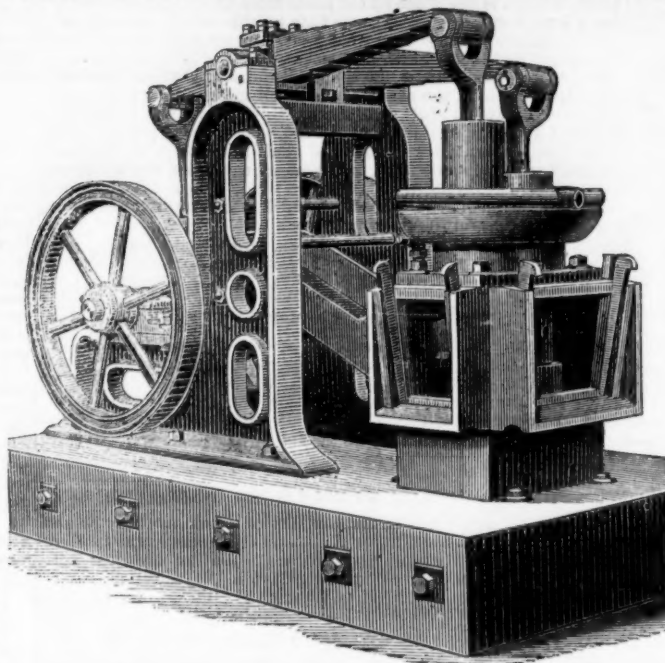
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AMERICAN SPRING BEAM  
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COMBINING ALL THE FEATURES WHICH  
EXPERIENCE HAS BROUGHT ABOUT IN REDUCING

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These Machines are guaranteed to  
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power than any Machines in the market.



THIS MACHINE CAN BE SEEN  
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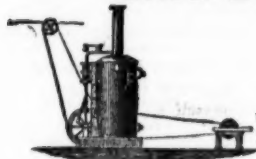
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N.B.—Quartz from abroad reduced  
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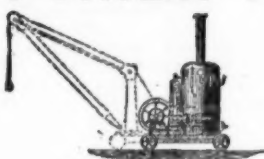
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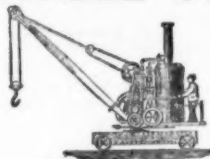
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SHIPS' ENGINE  
AND DISTILLER.



PUMPING AND  
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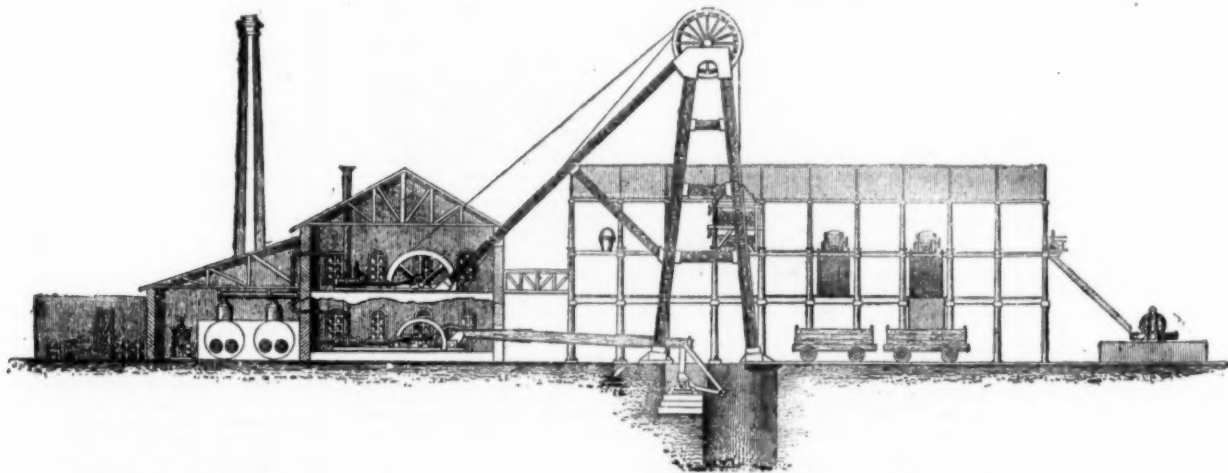
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BOILERS AND ENGINES COMBINED; PIT-HEAD PULLEYS; WIRE ROPES; WROUGHT-IRON HEAD GEAR, CAGES, and SCREENS; BOILERS;  
PATENT DETACHING HOOKS; COAL WASHING MACHINES; STEAM HAMMERS; STEAM CAPSTANS; PUMPS; VALVES.  
PATENT BRIQUETTE MACHINES (for Compressed Fuel).

### MINES

CORNISH CRUSHERS and STAMPING MILLS; WATER WHEELS; REVOLVING and OTHER SCREENS; BLAKE'S ORE CRUSHERS; JIGGERS  
BUDDLES; ORE-WASHING MACHINES; GRINDING and AMALGAMATING PANS; WELL-BORING MACHINERY; WIRE TRAMWAYS.

### BRICKWORKS.

PATENT BRICK MACHINES for DRY, SEMI-DRY, and PLASTIC CLAY; WET and PERFORATED CLAY GRINDING PANS; CLAY ROLLS  
PUG MILLS; MORTAR MILLS; FRICTION HOISTS; PIPE-MAKING MACHINES; BRICK PRESSES; PATENT KILNS.

PLANS, SPECIFICATIONS, AND ESTIMATES FOR COMPLETE PLANTS ON APPLICATION.

BEST DESIGNS, WORKMANSHIP, and MATERIAL THROUGHOUT.

N.B.—Experienced workmen sent out, if required, to Erect or Manage. Considerable Saving in Prices by dealing direct with us, having for many years been  
chiefly engaged in the manufacture of Colliery, Mining, and Brickmaking Plants.



## Original Correspondence.

## THE GREAT SOUTHERN MYSORE.

SIR,—Will you kindly allow me, through the columns of the Journal, to thank someone unknown who forwarded me a copy of the report just issued by the directors of the above company. I presume, by its being marked "private and confidential," it was not intended by the directors that it should meet my eyes; but, having perused it, I should like, with your permission, to make a few comments thereon, as a rebutment to the disparaging remarks against my reputation and abilities as a miner, which the directors have been good enough to make in that report, to cover their own evil working schemes—as such schemes are only a delusion and a snare to the unwary public, ruining many, without having even one redeeming feature in them, and at the same time doing more injury to legitimate mining than will be again eradicated for many years to come.

In the first place, I ask if the statements made in that report could by any means be substantiated by actual facts would there have been any need to make it "private and confidential?" Would they not have courted the utmost enquiry, and have sent out a thoroughly competent, trustworthy, and well-known man to report on it, and not have sent a penny-a-liner to send them what they wanted, "irrespective of truth."

On May 13 the secretary wrote me—"The board is most anxious to receive from you, at the earliest possible date, your opinion of the property." Again, on May 20, he wrote me—"Property; of this we shall be glad to have a description as soon as possible, and your candid opinion of the value of the quartz. Over here we hear conflicting statements of its great richness and intense poverty, and it will be a pleasure to have some reliable and trustworthy information on the subject." In answer to these requests I wrote as follows:—"June 11, 1881. To the Directors. Gentlemen,—The secretary in his letter of May 20 having made known to me that it was your wish to have my candid opinion on the value and prospects of your property it is with the utmost reluctance and with feelings of deep regret that I submit this to your consideration, knowing as I do that I have a painfully conscientious duty to perform both to myself and my employers. Although many favourable reports have from time to time been published of the rich prospects of the properties held by the different companies in this locality I must candidly confess that I cannot conscientiously endorse them as applicable to this company's property. I cannot hold out hopes of future success where I cannot see the prospect of such hopes being realised, and when I have laid before you a report of my investigations I leave you to think and judge as between you and me whether my convictions have or have not any foundation. When I first visited the property I was remarkably struck by the numerous outcrops of quartz which were visible; but I must, at the same time, confess that I was remarkably struck with the fact that I did not see a bit of quartz that I should have expected to find gold in, and I was also very much disappointed that I could not see traces of any other mineral associated with the quartz except here and there stains of oxide of iron; however, I concluded that good reports having been given of the working and prospects of other companies in the neighbourhood my fears and doubts might be removed after having commenced operations. Therefore, on May 6 I reported to you that 'if surface indications are to be relied on we have nothing to fear here as regards quantities of quartz.' Further on in the same report, 'if it only holds down the same we have it in abundance; the next consideration is the produce of gold,' &c. And now I must candidly say to you that at the same time I had grave doubts as to there being true fissure lodes here, but I hoped that in this also my doubts might prove unfounded; consequently, I did not mention this to you then. I commenced operations by cutting a trench across some of the outcrops, and sinking on others, with the following results:—On that portion marked 'probably disturbed outcrop of reef' refer to sketch forwarded to the secretary. I cut a trench across what I thought from surface indications to be a reef of quartz some 6 ft. or 8 ft. wide; but you may judge of my astonishment and disappointment on finding the quartz to be lying on the surface only, and 2 ft. down not a trace of quartz or quartz vein visible. In trenching across what appeared to be a promising outcrop to the east of the last mentioned I was similarly disappointed. On outcrops 3, 5, 6, and 7 I started sinks, and I was so disappointed at finding them disappear and leave no traces of quartz veins visible at a depth of 2 or 3 ft. that I then felt that my conscientious duty would be to acquaint you with the facts; but, having struck a small vein of quartz on the west side of outcrop No. 7, I continued sinking on it, and at a depth of about 5 ft. it had opened out to about 1 ft. in width. Then I thought the evidence I could offer you would not be quite sufficient to be satisfactory to you, and concluded my only course open to prove these veins, or rather, I should say, whether there might be anything worth working after was to sink the shaft, as I have already stated to you—Nancarrow's shaft—and cross-out each side across the course of these outcrops. This course would prove whether the opinion I had already formed was well founded or not, and the evidence I could then offer would be some satisfaction to you either one way or the other. The mortar having arrived here I have had some quartz pounded, and both Mr. Marsh and myself have washed some of it; but I regret to say we found no traces of gold or other mineral therein. Notwithstanding the reports of reputed scientific men and others, and the fact of there being a great number of quartz outcrops on the surface, my opinion is that there are no true fissure veins on the property. Gentlemen, having asked me for my candid opinion on this property I submit the foregoing to your consideration regardless of any pecuniary disadvantages which may result to me in consequence of my thus candidly expressed experiences on the property. I feel that I have done a conscientiously though painful duty; and, in conclusion, I must state that, although gold may possibly be found in small quantities here and there, that I have seen nothing whatever to lead me to suppose that it ever may be found here in paying quantities or even in quantities sufficient to warrant a search for it, and my candid opinion is that the only result to look forward to is a total loss of all moneys expended or that may be expended here in searching for gold. I await your instructions.—CHARLES F. BRAY."

The only reference ever made to me respecting the worth of this report was a telegram directing me to "continue sinking Nancarrow's shaft to 80 ft.," and the secretary's letter of July 8 containing the following—"I am directed by the board to acknowledge the receipt of your communication to them dated June 11, and to instruct you to proceed with the sinking of Nancarrow's shaft to a depth of 80 ft. or 100 ft., as stated in my telegram to you of the 6th inst. At some where about this depth it will be advisable to cross-cut. The board does not anticipate that gold will be found at a less depth than this." The action of the board thus far evidently admitted the truthfulness of my opinions, and their subsequent action or doings have been consistent with nothing else than a private conviction that I stated nothing but facts, but keeping me in the position I held would not suit their pockets. Therefore, after doing all they could do to try and induce me to alter my opinions and send good reports to them, they commenced bullying and haggling, and some of the letters sent to me were really disgusting to any honest straightforward man that knows his business and has moral courage and manliness enough to do what is right, in spite of all temptation to do otherwise. The board may well say that "I began to cause them uneasiness at an early period of my engagement," because this uneasiness began before I left London, as I stated at the meeting of the board on the day I left, when the statement was made to me that "thousands of tons of quartz were lying about on the surface which would not produce less than 1 oz. per ton." I told them if the gold was there, as they state, I would soon send them some home; but if it was not there no consideration would induce me to say it was there. I could not but help thinking at the time they were conscious that these statements were untrue, and that at no very distant date I should prove them to be so, and printed instructions were handed to me to the effect that on commencing operation I was to employ women to collect this quartz, and that I was to build a stockade of high

pallisades to store the rich quartz in. How can the statement of thousands of tons of quartz on the surface, containing not less than 1 oz. per ton, be reconciled to the other that they did not expect to meet with gold until a depth of 80 ft. or 100 ft. had been attained.

The statement that the shaft named is not in the right position may possibly have some truth in it. I do not deny that it is not in the right position to find a paying lode, as wherever I had commenced sinking the fact would have remained the same; but this I do know, if there is one place on the claim more likely than another to find a lode it would be in its immediate neighbourhood, as there are more extensive outcrops near that point than on any other part of the claim; and the gigantic shaft mentioned was of much less area than several other shafts on the field, and that shaft as sunk and intended to be used was capable of a much more extended working than from any other shaft sunk there. Having had many years experience in the sinking of shafts—round, square, rectangular, &c.—I know from experience which kind of shaft is speediest to sink and best and safest to work from, and more especially so where natives have to be employed—a consideration which does not find favour with all mine managers abroad. I find I shall have to crave a further favour for a future letter on this subject.

CHARLES F. BRAY,  
Late Manager Great Southern Mysore Gold Mines.  
Cornwell-road, Ladywood, Birmingham, Jan. 2.

## GREAT SOUTHERN MYSORE.

SIR,—Kindly allow me to call your attention to the report of Mr. W. Bell Davies in the Foreign Mines column of the Journal of Dec. 31. The report in question refers to the operations of the Mysore Company's property, and has no relation whatever with the Great Southern Mysore Company Mines.

CHARLES F. BRAY,  
Late Manager Great Southern Mysore Mines.  
Cornwell-road, Ladywood, Birmingham, Jan. 2.

## THE GREAT SOUTHERN MYSORE GOLD MINING COMPANY.

SIR,—I am instructed by my directors to point out that in last week's Journal Mr. Bell Davies' report, published under the heading "Great Southern Mysore," has been so headed in error, as that report solely and entirely refers to the Mysore Company's mines.  
London, Jan. 6. ERNEST H. GOULD, Secretary.

## THE MYSORE REEFS GOLD MINING COMPANY.

SIR,—As it appears that there is a misapprehension with reference to my letter to you of Dec. 23 last, I am desired by the Board to state that the concluding paragraph thereof has no personal reference whatever to the two retiring directors therein mentioned.  
London, Jan. 5. P. A. EAGLE, Sec.

## THE DIAMOND FIELDS OF SOUTH AFRICA.

SIR,—If I may judge from the torrent of abuse with which I have been honoured by certain persons my letter to the Journal of Sept. 16 has most assuredly touched a very sore point. Were it not that I am leaving here for some days I would reply to the South African; but I will reserve for another occasion giving the details of every company on the South African diamond fields. Every honest and impartial person will see that my letter to the Journal is in perfect consonance with my reports on the diamond mines in 1879. I have never in my life written a letter wherein I have not expressed my entire confidence in the permanent character of the diamond mines of Griqualand West.

These are no question as to the success of some of the companies. For example, the French Company, Barnato, Standard, British, and Central are good companies. I have no hesitation in saying that if the latter company had fair play they could pay 50 per cent. per annum on their capital; but in my opinion they have not got fair play at present. I repeat what I stated in my letter, that owing to the success of the above companies worthless concerns were started in every direction. The five companies above named were not offered for sale in England, consequently my caution to English capitalists did not apply to them.

Many of the concerns that were offered to English capitalists were not worth the paper on which the scrip were printed, and as it came to my knowledge that other worthless concerns were being prepared for the European market it was my duty, as it should be of every person interested in bona fide mining, to try and prevent English capitalists from being fleeced. There are hundreds of claims that if taken up and worked simply on their own merits are worth the attention of capitalists, which are not worth the attention of capitalists if offered at anything but a nominal price. The same remark applies to the river diggings. The following leader, which I clip from the [Kimberley] Investors' Guardian of Dec. 1, will convey to your readers a fair idea of the opinions entertained here by a majority of the population respecting my letter:—

A great deal of attention has been directed to a letter which appeared in the Mining Journal, and signed by Mr. Kitto; but this letter seems to have given a great amount of dissatisfaction, and Mr. Kitto has come in for no small amount of abuse. Whether the publication of such a letter at the present time was judicious or not we will not at present discuss. We certainly would much rather it had not appeared, as the public at home have a sufficiently bad opinion of us, without any such additional causes, and there are statements in the letter which are unquestionably too strong; for instance, the assertion that in some companies large dividends had been arranged is either without the foundation of fact, or, if it be true, should certainly not have been stated in so vague a manner. However, taking the letter all through, we think that it is sufficiently correct and impartial to have met with a better reception than has proved to be its fate. No one can deny that in many, if not in most, cases claims have been put into companies, as Mr. Kitto says, at far above their value; nor can the fact be disputed that the public have been, and for the matter of that are now being, imposed upon as regards the discovery of so-called diamond mines. Concerning the Share Market and the whole system adopted there we do not think that any contemporary will attempt to defend that; it must be admitted that there, at any rate, we made a most miserable failure, and our only plea can be that comparatively few outside of the diamond fields suffered for our reckless mode of business. Mr. Kitto makes no question as to the stability of the diamond industry, and in stating his belief that if placed on a sound footing an average return of from 12 to 20 per cent. might be obtained we do not think he is very much under the mark; nor do we think that Mr. Kitto was moved by a feeling of malice or disappointment to write this letter, and we can well understand plain facts concerning our condition are not always palatable.

Turning to another subject we find a contemporary praising an article which appeared lately in the Bullionist, and which in our opinion is calculated to do far more injury to our reputations than could possibly be caused by Mr. Kitto's letter, for although the writer of the latter article intends to speak favourably of our industries the statements he makes are so incorrect they can only have the effect of misleading those who do not know the real facts of the case.  
Kimberley, Dec. 5. THOS. COLLINGWOOD KITTO.

## THE GOLD AND DIAMOND FIELDS OF SOUTH AFRICA.

SIR,—The Central Diamond Mining Company have published their sixth quarterly report, which, considering all the difficulties they have had to contend with, is very good indeed. This company has 754 claims, and is without doubt the best diamond mining company in South Africa. The British, Standard, Barnato, and the Compagnie Française are all doing fairly well, and ought to declare their usual dividends. Those companies are all in the Kimberley diamond formation, and ought to be placed on a separate list as dividend-paying concerns. The other eight large companies in the Kimberley diamond formation show no sign of dividends at present. There are 13 large companies in the Old De Beers diamond formation; 18 large companies in the Du Toits Pan diamond formation; 14 large companies in the Bultfontein diamond formation; five in Koffyfontein formation; and 11 in the Jagersfontein diamond formation. Information with regard to the dividends paid by the above companies may be found in the list compiled by Mr. W. P. Taylor, of Holborn Viaduct, and published in the South African.

News from the Victoria Kopje is discouraging, and many persons think it is no good. Taylor's Kopje does not look very promising. Otto's Kopje is at a standstill; they have sunk a good shaft, and started fairly well, but I have not heard of any diamonds being found yet. St. Augustine's Mine is not being worked; but a gentleman who is thoroughly competent to judge informed me that, although it is small compared to the others, yet it is a true mine, and likely to prove a success. I hear very good accounts from Kamfer's dam; they expect to commence washing blue ground (diamond soil) in about three weeks. Mr. Tom Lynch, of the Kimberley Waterworks Company, has again returned to Kimberley. He has succeeded in getting a sufficient number of wagons to convey all the pipes to their

destination within eight months. The affairs of this company both at the river and reservoirs are progressing rapidly.

The temperature during the past week has been more agreeable, and the mornings and evenings have been cool. On Saturday last another sad accident happened in the Kimberley Mine, whereby a young man named Tubbs lost his life, and two other white men were severely injured; and on Tuesday another young man named Henry was mortally wounded. Mr. Kitto's letter to the Mining Journal has subjected him to no small amount of abuse from a certain set; but the more honest portion of the population agree with him so far as the contents of the letter are concerned, but many think it ought to have appeared sooner. All those who know Mr. Kitto believe he wrote *pro bono publico*.—Kimberley, Dec. 8. CORRESPONDENT.

## WEST AFRICAN GOLD MINES.

SIR,—The following extract from a private letter recently received from one of the most respectable and influential native merchants at Cape Coast Castle should prove worth the attention not only of the shareholders in the Gold Coast Mining Company, but of all persons interested in the West African gold mines:—"The Abontuyakoon Mine, if accounts are true, and we need not doubt it, appears to be the best, and holds out early hopes of a satisfactory return to its subscribers in a very short time." This coming from a gentleman having opportunities of learning the truth which few possess is important and trustworthy, because spontaneous and unsolicited, testimony as to the value of the Gold Coast Mining Company's property, and should go far to satisfy the shareholders as to the genuineness of the reports received from their mine, and the probable early realisation of their perfectly well-founded expectations, and may, therefore, be fairly set against the carping misrepresentations and groundless doubts of some disappointed would-be authorities and self-styled experts, who profess to have seen all the Wassaw Mines, and to pronounce an *ex cathedra* opinion thereon, whereas, if the truth were told, it would be found that, in one instance at least, the "authority" passed more time in his hammock than in seeing the country in which he spent some two months, and concerning which he professes to give such valuable information; but we all know the meaning of "sour grapes."—London, Jan. 4. F. R. C. I.

## GOLD COAST MINING COMPANY.

SIR,—Kindly allow me to correct several inaccuracies which appear in the report of Capt. Molesworth's address at the Gold Coast Mining Company's meeting, published in last week's Journal. Being questioned by the directors as to the possibility of the manager at the mines sending home picked stone my answer was that without assaying appliances, or the advice of a practical geological assayer, it would have been impossible for him to have done so, as there was no visible gold on any surface of the stones. Respecting the trial of the 29 lbs. of ore I may state that it is a very different thing to treat 29 lbs. of stuff by the same process as one would use for 1000 tons and to take a sample of a few ounces from a bulk of 29 lbs. and extract the gold. The one is a sure proof that the results will be the same in treating thousands of tons; the other is a proof that the gold is in the ore, but not that it will be recovered. In explanation of the mistake made by one of the first assayer houses in this City, after crushing and amalgamating the 29 lbs. of stone I entrusted the retorting of the mercury to an eminent firm of assayers, who after distilling it informed me that it contained only 0.600 grs. of gold. As I was confident from the appearance of the amalgam at the time of cleaning up after amalgamation that it contained more gold, and from the consistency of that metal being so impalpable the possibility of its being carried to the receiver with the fumes of mercury was probable, I asked the assayers to retort the mercury again, taking great care to keep the fire as low as possible until the commencement of distillation. This they did, and the result was I obtained 16½ grs. of gold.  
Louis F. GOWANS,  
Reduction Officer, Gold Coast Mining Company.  
Cape Coast, Jan. 4.

## FLAGSTAFF DISTRICT SILVER MINING COMPANY.

SIR,—The attention of myself and my colleagues, Messrs. Lousada and Emanuel, as joint solicitors to the company, have been drawn by the directors to a letter signed E. Pearson, which appeared in your Journal last Saturday. As the statements contained therein are calculated to mislead the shareholders and the public, we consider it right to give a *résumé* of the facts. The old Flagstaff Company executed two mortgage deeds, dated respectively Dec. 22, 1876, and April 25, 1877, for securing the payment of debentures to be issued by that company, and appointing the said Ellis Pearson and another trustees. Subsequently two actions were brought in the Chancery Division of the High Court of Justice, and on Aug. 2, 1878, an order was made in those actions that the trusts of the said two deeds should be performed and carried into execution. Nothing further was done under that order until June 1 last, when Mr. Pearson served a summons on the liquidator of the old company asking to be at liberty, at the expense of the trust estate, to commence and prosecute proceedings in the High Court of Justice for foreclosure of the mortgages. On Dec. 12 an order was made upon the said application. No question can be raised as to the right of anyone interested under a trust deed to obtain an order for the execution of its trusts, nor as to the right of mortgagees or debenture-holders to obtain leave to commence proceedings for foreclosure. Such leave is granted almost as a matter of course. The order gives Mr. Pearson leave to commence and prosecute proceedings in the High Court of Justice in England. The property being in Utah—why, to quote the words of Mr. Pearson's letter, "the numerous body of debenture-holders will feel indebted to you for the publication of this intelligence," and why it should be of "interest to the shareholders in the Flagstaff District Company," I am quite at a loss to understand. If Mr. Pearson wishes the letter to infer that he proposes to take proceedings to impeach their title to the property, then I think he proposes to undertake a task which he is about as likely to accomplish as if he were to undertake to recover from the original promoters of the old company the enormous sum they took out of the shareholders' pockets some 10 years back.

For the information of the shareholders in the Flagstaff District Company, I may here state that before parting with the purchase money the directors had the title thoroughly investigated by their attorney in Salt Lake City; and in conjunction with Messrs. Lousada and Emanuel I carefully examined the certified copies of the entries relating to the company's property extracted from the County Record Office of the State, also from the District Court, and we came to the conclusion that we could safely advise the directors to accept the title. I then prepared the necessary deeds, which were forwarded to Utah for registration, and although the money was then lying ready at the bankers the directors did not part with it until the deeds were executed, and they had received advice from their agent that he was in full possession of the property on their behalf. Only within the last few days I have received a letter from the company's attorney in Salt Lake City, in which he states that he has investigated the title, and he confirms his former report. I may also add that we were assisted in dealing with the matter with the advice of two eminent conveyancing counsel.

The question will naturally suggest itself, what possible object can Mr. Pearson have in making the communication referred to? It was open to him to take the steps he has now taken at least ever since Aug. 2, 1878. Again, if he really wished to preserve the interest of the debenture-holders in the old company, and save the shareholders in the new company from loss, why did he not take the step he has now taken when the new company was first brought out, and give the shareholders and directors timely warning, so that they might have had an opportunity of keeping their money in their pockets instead of investing it in the shares of the new company? Mr. Pearson cannot plead ignorance of what was being done. He saw the prospectus when it was being issued, and long before any allotment had been made. If he means to allege that it was no part of his duty to protect the interests of the shareholders in the new company it must have been evident to him that by allowing the property to be transferred to the new company he would add immensely to his difficulties in any attempt to impeach their title, and thus he

\* I have since ascertained that these stains were due to the oxide of iron from the decomposed basaltic rock of the country.



would prejudice the interests of those whom he would now have us believe he is so anxious to protect. Another fact, Mr. Pearson was for a long time negotiating for the purchase of the property with the very party through whom the new company's title is derived, and he made two attempts to launch a company, with a view of obtaining the means to purchase the property. The prospectuses he issued speak for themselves. Why did he not then think of his duty—just as much a duty then as now—to the debenture-holders, for whom he was a trustee? I have no desire whatever to impute improper motives to anyone, but I cannot help exercising my own common sense in forming a judgment as to the motives which induced Mr. Pearson to take the very extraordinary course he has taken; the only possible result, so far as I can see, intended to be produced by the step Mr. Pearson has taken is to create an uneasy feeling in the minds of the shareholders, and to depreciate the value of their property. I individually have formed my own opinion as to Mr. Pearson's object, and others can do the same.

ALEX. KERLEY.  
14, Great Winchester-street, Jan. 9.

#### SANTA CRUZ SULPHUR AND COPPER MINING COMPANY.

SIR,—It is surely time that Government interference of some kind (such as is now being talked of in France) was adopted in England. Instance after instance we have had during the year just past of companies subscribed to by the public on the good faith of the names of the directors on the prospectus, only to discover that about the time returns are looked for the directors find that they have been misled by the vendors' reports. We have now another instance in the case of the Santa Cruz Company. This company, which held out such good promises, started with a capital of 200,000*l.*, and was subscribed for twice over. The directors it now appears accepted, apparently without suspicion, the reports of surveyors acting for the vendors (whoever they were), who asked the enormous sum of 60,000*l.* for the so-called mines. These reports were at the time conveniently assumed to be correct, and the public were invited to put their money in an undertaking *bona fides* of which the directors did not take the trouble to verify before coming to the public for the capital. It is now apparent that the gentlemen who compiled the reports were more interested in the floating of the company than in its desirability in a straightforward concern, and it now seems that instead of there being copper ores in sight ready to set 100 men to work at once the "rich lodes" have yet to be found. The falsity of the reports is discovered not before, but months after, the money had been obtained, often from those who can ill afford it, when one would suppose that men of standing, having the slightest idea of business, would before agreeing to pay away 60,000*l.*, or even lending their name, to an undertaking of such a nature, see if such a mine really did exist. A few days voyage in company with an engineer appointed by themselves would enable them to form an opinion. Until directors are held personally responsible for frauds perpetrated on the public, through the necessary precautions not being taken, there will be no safeguard to shareholders, and not until then will they know their true position, which is not simply to collect fees, but as trustees for the subscribers. No business man acting for himself would part with money unless he knew he was getting something of at least equal value in return for it. At present it seems as if the more respectable names on the board the less likely are they to take the necessary trouble to keep the public right, and the more manageable are they in the hands of fraudulent promoters. It is not difficult now to foresee the end of the Santa Cruz Company—the usual long course of liquidation, and the benefit of accountants and others, at the expense of those who like myself are—

London, Jan. 4.

UNFORTUNATE SHAREHOLDERS.

#### DON PEDRO MINE.

SIR,—I am not at all surprised to see the shareholders of this company making a stir about their own business. This is not to be wondered at, after seeing such wonderful promises held out to them of success. The 60-ft. wheel, with its new repairs, was to be an everlasting piece of work, or the reports written at the time wanted to make it so. But the 60-ft. wheel, with all the repairs and the reports written about it, has proved a failure. The next thing to succeed this bad mistake is a grand steam hydraulic engine, which is now of itself telling the truth; what it is able to do. To send steam-engines to Minas Geraes to me is like sending coals to Newcastle. Most likely this steam-engine that was sent out to Don Pedro Mine was a high-pressure engine; and if so, how were they to steam it without coals? It is not very likely they would be able to steam it with wet wood, or even with dry, and make it do the duty it was required to do. All these mistakes have occurred under what they call good management. I remember hearing a man say some years ago that he knew a manager who was saving shillings and throwing away half-crowns. There are all classes of managers to be found; many of them are full of one-sided views, which often lead to grand mistakes. It is a great pity but that this rich property had been managed by a set of competent gentlemen, and then they would have been able to see from the first what was really wanted to carry on their mine in a miner-like manner. This is what the shareholders have to look after, and place their property in the hands of practical men who have an insight in mining and all that is connected with it. What is wanted now was wanted eight or nine years ago to carry on the works.

With a good supply of surface water any one to use economy would say that the most useful machinery required for Don Pedro Mine would be a strong and powerful water-wheel made with the best material. The next thing is to select the best place for the water-wheel, and fix it as near the sump-shaft as possible to give the wheel all the power to work the pumps. The engine-shaft in jacutinga mines should be perpendicular; sunk off the lode. The lode should be bled with a cross-cut every 10 fms., and then they will be able to work on the lode with comfort and economy. To sink an engine-shaft in the jacutinga formation, and especially an inclined one, would require no end of cost in timber and labour, and more so if the timber is of an inferior class. I doubt very much if the Don Pedro Mine had been under the management of Messrs. John Taylor and Sons whether they would have left the things come to such a pass as at present. Perhaps long before this the gold that the shareholders have been waiting for would have been in their pockets. At least I venture to think some of it would.

St. Austell, Jan. 4.

#### RUBY AND DUNDERBERG MINING COMPANY.

SIR,—In the Journal of Dec. 10 I observe a letter written in the interest of the directors of this unhappy concern. In it an attempt is made to frighten the shareholders from supporting the opposition to the present board, and the bold assertion is made that if it is upset the mine will be brought to a standstill, and the shares rendered valueless. Let me remind those who are inclined to give credence to this statement to reflect and remember who it is that has brought the company to its present distressful position, and ask themselves if those who have done so are worthy to be trusted for the future. No one can forget what the Chairman told us at the last Midsummer meeting, based, as he now informs us, on a few weeks good ore returns, with nothing else besides. That statement of his led many to be duped into buying the shares at from 8*l.* to 9*l.* If he believed what he then asserted why did he not at a moment when the company was in such favour with the public bring out an issue of debenture bonds to the extent of 40,000*l.* or 50,000*l.*, and with that amount pay off, or provide for paying off, the debentures now nearly due, and provide themselves with ample capital for carrying on our mines. The public would then most certainly have responded and subscribed for the lot at less than 10 per cent. interest, thus guarding against all future contingencies.

Your correspondent insinuates that those who are now moving to have a change in the directorate are influenced by sordid motives, and that their intentions are to beat down the price of the shares, so that they may buy them back at a lower figure. I am one of those who have taken an active part in the matter, and who believe that the company's shares will never be worth the paper they are written upon until the present directors, and all others who have conflicting interests to that of the Ruby and Dunderberg Company,

are removed from having anything to do with its affairs. I have never "beared" a share of the company in my life, and although I knew what was certain to take place at the last meeting I never sold a share of my large holding till some days after the meeting was held. Nor am I alone in this respect, as I can vouch for. I do not despair of the future of the mines under an entirely new management, and when this comes to be the case I will gladly subscribe for some of the unissued 9000*l.* debenture bonds, provided Mr. Bernard's first claim of 5000*l.* to them is settled in some reasonable way. Not till then shall I contribute one shilling.

I would strongly urge all shareholders to be present at next Wednesday's meeting, when I hope a large room to gather in will be supplied us, and not as it was at the last meeting, when numbers had to go away without being able to gain admittance.

Jan. 4.

SHAREHOLDER.

#### RUBY AND DUNDERBERG CONSOLIDATED MINING COMPANY.

SIR,—From a circular just received I note the adjourned meeting of this company is fixed for next Tuesday, and I learn the committee will then present their report, but during this delay the mine appears to have stopped working, if we judge from the last telegram, I suppose, for want of funds. The committee will, I have no doubt, suggest a better mode of working the mine, but the first thing to be done is to find funds to thoroughly develop the property. It is the want of this to explore the mine in a miner-like manner that has brought about this catastrophe, and subject to all other matters being satisfactorily arranged the shareholders must find some 15,000*l.* to 20,000*l.* more capital before they can hope for success. The only way to get this capital will be to issue preference shares bearing interest at (say) 10 per cent., the property being already mortgaged and in debt, as stated at the last meeting, to the extent of about 20,000*l.* The preference shares would thus become a second charge, and the present shares must be made deferred shares unless some better scheme can be suggested to reconstruct the company altogether. Under any arrangement I fear we must wait a long time before our present shares will be of any value or bear any interest. I trust all my brother shareholders will make a point of attending the meeting, so as to judge for themselves and protect their own property, as I have no doubt there will be an attempt made to wind-up the company by those who have no real interest in the property.

AN OLD SHAREHOLDER.

#### ARTESIAN WELL SINKING, AND BORING FOR MINERALS.

The deep rock-boring machine suitable for sinking artesian wells, submarine boring, and boring for minerals, designed by Mr. J. G. Cranston, of Newcastle-on-Tyne, formed the subject of a descriptive paper recently read before the North of England Institute of Mining and Mechanical Engineers, which has now been reprinted in separate form. The writer classed the operations and tools of Artesian well borers under three heads: 1. A suspended tool to which an up and down motion is communicated either by means of hand or steam-power, the tool receiving between each drop or from time to time a rotary motion communicated to it either by the apparatus itself or by the attendant. 2. A rotating tool, either solid in the form of an augur, as in the old boring apparatus, or hollow in the form of a tube as in the Diamond boring instrument, the rotating motion being applied either direct by hand or by gearing; and 3. A stationary tool resting on the surface to be bored, and having a series of blows imparted to it by hand, as in the ordinary drill, or by a body made to move up and down by machinery.

It would, no doubt, be most interesting to follow the separate history and career of each of these methods in all their several and numerous ramifications from the earliest to the present time, as each class in its turn has been brought to prominence by some important improvement or by some special case of notoriety to which it was more than usually adapted; but the object of the present notice is to show the mode adopted for boring a series of deep bore-holes by a suspended tool for the Hartlepool Waterworks Company. The West Hartlepool Gas and Water Company is probably unique in having two distinct mains for supplying water in their district, one main supplying surface water to manufacturers, and another supplying drinking water, obtained by boring through the magnesian limestone. The surface water is accumulated in reservoirs in the usual way. The drinking water has been obtained from holes—one 6 in. diameter, two 4½ in., and two 3 in. diameter—bored through the magnesian limestone. The supply being insufficient it was determined to put down another hole. The holes are said to be somewhat difficult to bore on account of the hard and peculiar nature of the rock. The usual progress made in sinking these holes was from 8 in to 9 in. per day, and the shallowest costing something over 100*l.* for labour alone.

For sinking the sixth hole Mr. J. G. Cranston's boring arrangements were employed, his apparatus being constructed with a view to simplicity combined with increased rapidity and economy; it consisted of a vertical steam-engine with a 10-in. diameter of cylinder and a 12-in. stroke, making about 120 revolutions a minute; the crank shaft carries a small drum, which is geared into a larger one attached to the shaft by means of a belt; on this shaft is a cam roller, which lifts the wooden beam or lever once to every three revolutions of the engine. The bore rods, with adjusting screw attached, are suspended from the end of the beam lever directly over the bore-hole. The boring tool, made of steel is attached to the rods by a screw in the usual way, and is alternately raised and dropped with considerable force upon the face of the rock, while at the same time it is slightly rotated and fed forward as the hole deepens by the man in charge; provision is also made to regulate the balance of the beam lever, which necessarily becomes heavier at one end in proportion to the additional weight of the rods, which are gradually lengthened to suit the depth of hole required. The support to receive the beam is provided with india-rubber to break the shock of the blow. The force of the blow can be regulated by simply moving the trestle which supports the beam arm nearer to the bore rods, when weights may be added to its opposite end so as to maintain the desired equilibrium; holes of various dimensions are bored to very great depths with a remarkable degree of simplicity and rapidity.

At the West Hartlepool Works water was taken from the company's reservoirs by iron piping about ½ in. in diameter, 320 ft. long, down the 6-in. diameter bore holes to a point close above the boring tool, so that the debris or mud accumulating at the bottom of the hole, as the rock is being pounded away, is washed or forced out through by the regular flow of water; it was found to be of great advantage, as over 100 ft. could be bored at one time without it being necessary to withdraw the rods. A crab winch and derrick being provided, the rods are readily withdrawn and re-inserted when desired. The rods are made from 1½ in. square wrought-iron, varying in lengths from 1 ft. 6 in. to 15 ft. each. The boring tool is made in shape similar to the letter *x*, and ensures a perfectly round hole, which is found to be a great advantage when tubing is required. The apparatus has accomplished the work desired by the water company at West Hartlepool without requiring any repairs whatever, to their entire satisfaction. The average cost for erecting the machine and boring a 6-in. diameter hole 103 ft. deep has not exceeded 15*l.*, including labour, fuel, oil, and stores. The progress was 10 ft. per day, the whole depth being completed in ten days by two men, at 3*s.* 6*d.* per day each, or for a total sum of 3*l.* 10*s.* The steam was taken from the boiler working the pumping engine, so that no additional fireman was required, the remaining cost being for extra fuel and oil, and for the men's time erecting the machine, whereas 4-in. diameter holes had previously been bored 70 ft. deep by hand, and they cost considerably more than 103 ft. boring with machine. A somewhat similar apparatus is now being constructed, and will shortly be employed by the River Tyne Commissioners on the Tyne for submarine boring; and in order that the boring may be carried on unremittably during the varying rise and fall of the tides some modifications in the general arrangement are being made, but the principle is the same.

In the discussion which followed the reading of the paper the secretary stated, in reply to several questions, that the machine was suspended by a short chain, that a depth of 100 ft. was bored without changing the tool, even to sharpen it, as the water which entered

at the small pipe was carried down to the place where the tool worked and kept it sharp and free from debris. The sum of 15*l.*, mentioned as the cost of erecting the machine and boring a hole 6 in. in diameter, 103 ft. deep, was the total expense incurred for labour, and did not, of course, include the value of the machinery. The Chairman thought it was not possible it could be that amount for the whole depth, but the secretary replied that Mr. Mossman, the engineer of the West Hartlepool Waterworks, supplied the details connected with the supply of water and the mode by which they obtained both the surface water and the hard water, and he perfectly agreed with the statement.

Since the paper was read the River Tyne Commissioners have got the boring apparatus to work. At the first trial a 3 in. diameter hole was put down 14 ft. in rather less than two hours. The average depth over the rock being 16 ft., some of the holes are now bored 30 ft. deep, 18 ft. of water. Great credit is due to the engineering department of the River Tyne Commissioners, inasmuch as they have accomplished to a great extent the removal of the rock at Bill Point, and have already bored over 2500 ft. of blast holes. The entire removal of this rock in the river will undoubtedly prove a great advantage to the enterprising and prosperous port of the Tyne.

Jan. 5.

J. G. C.

#### THE TINCAL TRADE OF ASIA.

SIR,—The last 12 months has been so unsatisfactory to the buyers of tincal that a few remarks may be of advantage to those interested, and the adoption of a few suggestions that I may make may to some extent remedy the present evil and losses to those who intend to embark in the trade the coming season. As many of the merchants in Calcutta have but little idea of the mode of the trade before its arrival in that port, the following information may be useful to all concerned. The Bootus are the owners of the sheep that carry this product from the very heart of Tibet over the Himalayan Mountains into India. The tincal is collected by the poor native population from the sides of the lakes in September, October, November (many of these collectors only get from equal to a penny per day paid in cowries), and is brought into the villages in Tibet and sold at the bazaars. The owners of the sheep buy it from the small dealers, and put it into saddle bags, as much as 30 to 40 lbs. in each bag, or about equal in weight to the animal that is carrying it; some few goats are also employed in this trade. They then start on their wearisome long journey, many of the flocks with nothing but tincal. Every driver carries a distaff and bobbins, and as they travel they carefully collect every bit of wool that falls from the sheep, or sticks to the thorny bushes, as the sheep come in contact with the bushes that drag their wool off. The wool is spun into yarn or strong thread, and then woven into cloth, which they make into bags. These are covered outside by sheepskins to prevent the tincal from getting wet, and also to protect the woollen bags from getting torn by the thorny bushes. Frequent deaths of the sheep and goats take place on the road. The flesh is always eaten by the drivers. From 800 to 1000 sheep make a drove, the sheep are driven from 7 to 9 miles per day, and it takes from six to eight weeks for the journey from starting point to Moradabad. They travel through a pass of the Himalayan mountains, about 100 miles north of Almira. In one part of the pass there is no grass for 25 miles. The underwood has to be cut down for the leaves to feed the sheep. Some parts of the pass are 15,000 feet above the sea level. The tincal is sold in the bazaars at Moradabad by the Bootus to native dealers, and it is sent from thence to Calcutta. The owners of the sheep take back, on their return journey, salt, rice, sugar, cowrie shells (which pass as coin), and small Birmingham and Sheffield wares. When tincal was so cheap about three years ago, in consequence of the large imports of borax from California, some of the owners of the flocks kept them in the plains, and carried ironstone packed in the tincal bags from Ramghur to the Government ironworks at Kumaon, at about 1*s.* per ton per mile. The tincal is called swab in some districts it passes through, but it is generally known under the name of tincal. The adulteration of the tincal commences at Moradabad and other points on the Indian side of the Himalayas, it is sent thence to Calcutta, some good and some mixed with sand and other impurities and sold by the natives to the European markets, and sent principally to Liverpool or London. When a European merchant goes to a native dealer in Calcutta and makes a purchase of a few hundred bags, great care is taken that all the visible bags contain prime tincal, the price per sack is fixed upon, and as soon as the buyer has left the go-down, many of the bags of good prime tincal are taken away, and inferior bags of tincal are put in their place. The tincal is then shipped, good and bad all mixed together, and on its arrival the buyer discerns the inferior article, and claims arbitration on account of inferior quality. The tincal is analysed by chemists in London and Liverpool, most of whom differ in the results; two brokers are then fixed on to make the allowance or award, and the result is generally a loss of from 2*l.* to 8*l.* per ton to the owner or shipper. With a view to prevent the sometimes unjust claims, I suggest the following mode, which would put a stop—first to the fraud in India; and, secondly, to the fraud in England—which is that no European firm ship tincal from Calcutta that contains any dust, but to have the whole sifted through sieves of, say, 20 meshes. The tincal would come to this country perfectly pure, the potters would use it with perfect safety, and they would be able to get a better glaze, making it preferable to borax. The manufacturers of enamelled iron goods prefer it, and, in fact, many of the German enamelled iron makers will use nothing else for glazing, when they can get it pure. Nearly all the consumers in England, Scotland, and other places would use it with perfect confidence and safety. Before the discovery of boracic acid lagoons in Italy, the bulk of the tincal was sold in London to borax refiners in Amsterdam, the works of which are now all closed. I have received samples within the last six months from a newly-discovered deposit in Nepal, each crystal weighing from 1 to 4 ozs., and quite free from dust. If bulk parcels arrive from this new source equal to sample, adulterated tincal will find no sale in India or England, and native dealers will find it to their interest to sell the tincal pure. The new season tincal will be due in Calcutta in December, January, and February.

London, Jan. 3.

A. R.

#### MINING IN THE ST. AGNES DISTRICT.

SIR,—A great deal has lately been written in the Journal about mining in this neighbourhood. How poor are your mines in St. Agnes said a respectable mine manager to me at Redruth this week. We cannot boast of mines in this place at present like Dolcoath, East Pool, Carn Brea, and others. Many years ago the parish was celebrated for its rich copper and tin mines. When the late Prince Consort visited the Royal Polberron Consols in company with Mr. Richard Taylor, famed in the history of mining for his intelligence and success, perhaps they never were driven over richer deposits of minerals. From Polberron Consols and the mines immediately adjacent millions of pounds worth of tin and copper have been raised; this mine will go to work again soon. Nothing can hinder, let sufficient capital and proper explorations be brought to bear here, and one of the largest and most prosperous mines will be opened up at Polberron. Not much has been done under the 60, and during the last working about 40,000*l.* profit was made from stuff at the adit level and old stulls. West Kitty is turning out well after 20 years of perseverance and outlay of from 30,000*l.* to 40,000*l.* Mr. J. B. Reynolds and his friends deserve such a mine, and great credit is due to the late Captain J. Vivian, of North Roskear, one of the most practical, sagacious, and successful mine managers ever Cornwall produced, for the opening up and developing of West Kitty. I hope the present manager, Captain W. Vivian, will be equally able and successful in the future of the West Kitty. What we want in this neighbourhood in relation to our mines is depth and exploration. I heard many times years ago that St. Agnes Mines would never be worth much under the 30. Wheel Kitty, West Kitty, and Wheel Coates have exploded this notion. Let the same amount of work and capital be brought to bear on the mines in this parish as in the Camborne and Redruth districts we shall have similar results. Blue Hills must in time, if the executive here will carry out the ideas as suggested above, become a rich and profitable mine. It is a wonder here how successful East Blue Hills has been in such a short time; it cannot be otherwise when we know that it



one of the finest pieces of tin ground ever known in St. Agnes. Machinery and capital will be well rewarded here in large and constant dividends. Penhalls is not looking quite so well just now. It will be a great pity to let this mine die out for the want of capital for further exploration; a few thousands laid out in Penhalls will be the saving of the mine, and will again come back to the shareholders in profits. The hands of the able and judicious manager at Penhalls has been fettered for years for the want of capital to reach some points of operation talked about every day.

Wheal Kitty, the old stand by, a rich mine for years; no call made for near 20 years. Started by the late Capt. John Davies of this parish, one of the ablest mining engineers in Cornwall, who had a large engine-house put up here, and an engine set to work in six weeks. Although things have not been quite so well here lately, yet grand and brilliant days are again in store for Wheal Kitty. Some months ago, a speculative cross-cut was set to work here (through much opposition from certain quarters) to cut a lode that had been very rich in one part of Wheal Kitty, but had been heaved; hundreds of pounds have been spent for years to find the long lost lode. Fortunately, in this speculative cross-cut on Saturday last, the men working in this level cut the lode, and it is believed to be the very thing they were in search of. They have cut into it a foot or two, and up to Wednesday (yesterday) it has a good appearance and producing tin, assayed to be worth 3 cwt. of tin to the ton, and it is not out through yet.

Great importance is attached to the discovery of this lode, and should it turn out, as it is fully believed that it will, the future of Wheal Kitty will be brighter than the past, and the prestige of the mine fully maintained. It is in whole ground, and has near 200 fathoms in length. Success to Captain Teague and a happy prosperous New Year to him, and to the proprietor, and all connected with the Mining Journal, and all mining in general. I will resume this subject next week.

St. Agnes, Jan. 5.

#### GOLD IN WALES.

SIR,—The recent discoveries at Clogau Mine have proved that after all we need not go so far from home for the precious metals. It may safely be said that no really fair trial has been made of the gold mines of Merionethshire, with the exception of the above mine. The last time that public attention was drawn to them by the discovery of gold at Clogau there was a mad rush on every place where a bit of white quartz was to be seen, and all sorts of machines were sent down, many of which the captains in charge did not know the use of. Since that time (say, 20 years ago) vast improvements have been made in machinery connected with the extraction of metals from their crude state, and a lower percentage of gold would pay than would have been remunerative then. But even were this not so the percentage of gold found in many parts of Merionethshire will bear comparison with the produce in any part of the world; but it is not to these rich bunches found in very shallow workings that we must rely, but to a good average produce from every ton, and that will in all probability be done, and before long.

A careful and very exhaustive examination of the alluvial deposits of the Mawddach River has proved the existence of gold in places where the river has shifted from its original bed; this, therefore, proves that there must have been gold in the rocks higher up somewhere in the hills. Should this district prove to be a really lucrative gold field it would do more to improve trade and commerce in the country than all the protective duties ever imposed.

Aberystwith, Jan. 5.

C. H. S.

#### SOUTH DEVON COPPER MINE.

SIR,—It will indeed be a great relief to all anxious shareholders, who have declined the tempting offers made for their shares in the South Devon United Copper Mines, to find that the work which will reward them for their waiting is being carried out. The pumps are upon the ground, and as soon as the pitwork in Pickstone's shaft is re-arranged to the 140 work of sinking to the 150 will be commenced; and if Capt. Nicholls, of Violet Seton, would kindly assist the board of directors with information, whereby he could ensure them of getting upon the lode at the 150 level with the same rapidity which attended the sinking of the engine-shaft at Violet Seton, there would be shareholders ready and willing to reward him with 100 guineas; and as that sum would be saved upon the resident agent's salary on that piece of work, it is likely that the board would give a similar amount, which they could well afford to do out of the dividends of 1882, seeing that Capt. Nicholls' plant would give them many thousands of pounds worth of copper in hard cash, which, under the existing system, will still be in the stores at the end of 1882.—Jan. 5.

CHRISTIE. ROBINS.

#### SOUTH DEVON UNITED COPPER MINES.

SIR,—Referring to the letter as to these mines which appeared in the Journal of Dec. 24 I must say that I do not participate in the hopes which your correspondent appears to entertain, as I, in common probably with most of the shareholders, have lost all confidence in the management. In February last (a so called) grand discovery was made by Captain Hooper, who wrote to the directors as follows:—“Most valuable discovery. . . . Cannot be over estimated. . . . You can with all confidence fully rely and depend upon its truthfulness.” The information of this grand discovery was most industriously reported to the shareholders in numerous and frequently repeated circulars from the office, which had the effect of raising the market price of the shares to between 400 and 700 per cent. premium, and also raised the highest hopes of the shareholders. I need hardly say that these hopes have not been realised as far as the general body of the shareholders is concerned; for this grand discovery, as far as relates to results at the mine, appears to have begun and ended in its discovery, and the shareholders have not been informed what has become of the valuable ore reported to be discovered. At the last meeting, held on Jan. 26 last year, a director suggested (in consequence of what was said by a shareholder) that in future it would be better to have half-yearly meetings, and the Chairman, in reply, said, “That can be arranged;” but we have had no half-yearly meetings. Why is this? At the same meeting the Chairman also said, “I look forward with a great deal of confidence to the future results of this property,” and “I have never sold a single share.” It would be interesting to know whether this confidence ceased when the shares went up temporarily to so high a figure in consequence of the grand discovery, and whether the Chairman would now be able repeat, “I have never sold a single share!”

Jan. 5.

A DISAPPOINTED SHAREHOLDER.

#### CALLINGTON DISTRICT, AND ITS MINES.

SIR,—It is gratifying to see at the commencement of the New Year another of the old abandoned mines started to work, and it appears in right good earnest, as they have brought it before the public in 20,000 shares of 10s. each, with no promotion money, and all the shares taken up, and a 60-inch cylinder engine for pumping, with drawing engine bought. That is expected to be speedily on the ground, and there is an engine-house built and whim-whoe nearly completed by a former company, and engine-shaft collared up from the adit. Taking all these things into consideration, and under the management of Capt. R. Goldsworthy, the shareholders may reasonably expect within six months to see the bottom of their shaft, when they will commence breaking silver, copper, and arsenical ores. A few days since I inspected an antimony set about four miles south of this, where I saw a splendid looking lode about 2 ft. wide, producing lumps of ore as large as the ordinary 56 lbs. weight, and according to assay produces 80 per cent. for antimony and 120 ozs. of silver to the ton of ore. This lode is a parallel lode with one formerly worked by Capt. Malachi, where there were regular returns made, but went in or fell through with his other mines. This lode is bearing north and south with an easterly dip or underlie in a beautiful mineralised stratum of brown clay-slate. There being such demand for white metal at present, I have a reason to believe antimony will be more sought after.

At Wheal Luskey the lode in the adit level driving under the hill west is improving every foot driving. They are raising large lumps

of grey, black, yellow, and green carbonate of copper, producing 20 per cent. of metal. It is true the lode took horse recently when it was over 5 ft. wide. Now the south part of the lode is bearing much faster towards the north; when the two parts meet they may reasonably expect to see a great improvement, as it is the south part that is producing the ore at present. The Trebartha Larn Mine is about half a mile north of Luskey. A parallel lode 3½ ft. wide will produce 10 tons of arsenical mundic that averages 22 units, and 7 cwt. of black tin per fathom. These two mines undoubtedly will figure in the Dividend List ere long.

J. BUCKINGHAM.

Callington, Jan. 4.

#### WHEAL AGAR AND ITS MANAGEMENT.

SIR,—I am sorry to learn that the water is again in Wheal Agar, and also that they are again in want of an agent. How long is this management, or mismanagement, to continue? The shareholders are getting tired of it. The meeting is long overdue. I am told that they have only returned 14 tons of tin during the last 20 weeks. This will necessitate a heavy call at the next meeting, and perhaps this is the cause of its being postponed. It is much to be regretted that so much valuable time should be lost in the development of such a good property. Have the shareholders no voice in the matter?

Bristol, Jan. 5.

O. S.

#### TIN HILL.

SIR,—A reader of last week's Journal would probably infer from the secretary's letter that I was guilty of misrepresentation, by stating in the previous number what I had heard as to the value of a certain lode. I said in my letter that “I heard that the lode was worth 1000 per fathom,” and I advised those concerned to ascertain for themselves its value. The shareholder who made the statement told me that when he was at the mine for the purpose of enquiry as to the value of the discovery, which had been described as very valuable, he met one of the miners, of whom he asked the state of the mine, and was answered thus:—“The mine is very poor still.” He went to another miner, who gave him some specimens of the lode in question, and said that the miners were requested by a large shareholder to keep the discovery a secret. My informant said that he supposed the object of that shareholder was to buy up shares before the new discovery transpired. The specimen brought from the lode I estimated to yield about 50 per cent. of black tin. As I never saw the lode, I am not prepared to say what it is worth per fathom; but I should be pleased to hear that upon development it is found to be as valuable as it was represented to be by the local shareholder—my informant. I wish success to all honourable undertakings.

Truro, Jan. 4.

R. SYMONS.

#### PROVINCIAL STOCK AND SHARE MARKETS.

CORNISH MINE SHARE MARKET.—Mr. J. H. REYNOLDS, stock and share broker, Redruth (Jan. 5), writes:—The share market during the past week has been very fluctuating on account of the downward tendency of tin in the face of increased stocks, but on a recovery taking place all the leading shares are again in demand at better prices. Subjoined are closing quotations:—Blue Hills, 1½ to 2; Carn Brea, 2½ to 3; Camborne, 10s. to 12s. 6d.; Cook's Kitchen, 27 to 28; Dolcoath, 88 to 90; East Pool, 45 to 46; East Blue Hills, 12s. 6d. to 15s.; East Uny, 1 to 1½; Killfret, 32s. to 34s.; Marke Valley, 1½ to 1½; Mellanear, 4½ to 5; New Cook's Kitchen, 4 to 4½; New Kitty, 2 to 2½; North Bury, 3½ to 4; North Herodfoot, 7s. 6d. to 10s.; North Penrith, 3½ to 4; Penrith, 3½ to 4; Phoenix, 3½ to 3½; Penhalls, 3½ to 1; Pelyn Wood, 3½ to 4; South Condurrow, 11 to 11½; South Crofty, 9½ to 9½; South Frances, 15½ to 16; South Tolarne, 2 to 2½; Tincroft, 18½ to 18½; West Basset, 14½ to 14½; West Frances, 15½ to 15½; West Kitt, 5½ to 5½; West Kitt, 13 to 14; West Polbrean, 1½ to 1½; West Poldice, 6 to 6½; West Poldice, 15; West Tolgus, 24 to 26; Wheal Agar, 13½ to 13½; Wheal Basset, 5½ to 6; Wheal Bury, 2½ to 2½; Wheal Grenville, 11½ to 11½; Wheal Hony and Trelawny, 2½ to 2½; Wheal Jewell, 3½ to 3½; Wheal Kitty, 1 to 1½; Wheal Pevor, 11 to 11½; Wheal Prussia, 1½ to 1½; Wheal Uny, 3½ to 3½; Wheal Jane, 1½ to 1½.

—Messrs. ABBOTT and WICKETT, stock and share brokers, Redruth (Jan. 5), write:—The market has been quiet this week, but to-day more business has been done in East Pool, Dolcoath, and Carn Brea, and there is a disposition to buy prevalent. The announcement that the total stocks had increased about 2000 tons damaged the market, but this has been fully recovered. Quotations annexed:—Blue Hills, 2 to 2½; Carn Brea, 2½ to 3; Cook's Kitchen, 27 to 28; Dolcoath, 88 to 90; East Pool, 45 to 46; East Blue Hills, 12s. 6d. to 15s.; East Uny, 1 to 1½; Killfret, 32s. to 34s.; Marke Valley, 1½ to 1½; Mellanear, 4½ to 5; New Cook's Kitchen, 4 to 4½; New Kitty, 2 to 2½; North Bury, 3½ to 4; North Herodfoot, 7s. 6d. to 10s.; North Penrith, 3½ to 4; Penrith, 3½ to 4; Phoenix, 3½ to 3½; Penhalls, 3½ to 1; Pelyn Wood, 3½ to 4; South Condurrow, 11 to 11½; South Crofty, 9½ to 9½; South Frances, 15½ to 16; South Tolarne, 2 to 2½; Tincroft, 18½ to 18½; West Basset, 14½ to 14½; West Frances, 15½ to 15½; West Kitt, 5½ to 5½; West Kitt, 13 to 14; West Polbrean, 1½ to 1½; West Poldice, 6 to 6½; West Poldice, 15; West Tolgus, 24 to 26; Wheal Agar, 13½ to 13½; Wheal Basset, 5½ to 6; Wheal Bury, 2½ to 2½; Wheal Grenville, 11½ to 11½; Wheal Hony and Trelawny, 2½ to 2½; Wheal Jewell, 3½ to 3½; Wheal Kitty, 1 to 1½; Wheal Pevor, 11 to 11½; Wheal Prussia, 1½ to 1½; Wheal Uny, 3½ to 3½; Wheal Jane, 1½ to 1½.

—Mr. M. W. BAWDEN, Liskeard (Jan. 5), writes:—The mining market has presented no improvement during the week. The slight reaction on the tin standard and heavy Chilean advices has caused a further depression, and most shares are obtainable at lower rates. Subjoined are the closing prices:—Bedford United, 1½ to 1½; Carn Brea, 25 to 25½; Cook's Kitchen, 27 to 27½; Dolcoath, 87 to 87½; Devon Consols, 7½ to 7½; East Caradon, 3½ to 3½; East Herodfoot, 3½ to 4; East Pool, 45 to 45½; Gawton United, 3½ to 3½; Glasgow Caradon, 3½ to 4; Gunnislake (Clitters), 3½ to 4; Herodfoot, 3½ to 3½; Hingston Down, 1½ to 1½; Killfret, 32 to 32½; Marke Valley, 1½ to 1½; New Caradon, 88½ to 88½; North Herodfoot, 3½ to 4; Old Gunnislake, 3½ to 3½; Phoenix United, 3½ to 3½; Prince of Wales, 3½ to 3½; South Caradon, 25 to 25½; South Condurrow, 11 to 11½; South Crofty, 9½ to 10; South Devon United, 15½ to 15½; South Frances, 15½ to 16; Tincroft, 18 to 18½; West Basset, 14½ to 14½; West Caradon, 3½ to 3½; West Mary Ann, 1 to 1½; West Phoenix, 1 to 1½; Wheal Agar, 13½ to 14; Wheal Basset, 5½ to 6; Wheal Crebor, 3½ to 3½; Wheal Grenville, 11½ to 11½; Wheal Hony and Trelawny, 2½ to 2½; Wheal Kitty, 1 to 1½; Wheal Jane, 1½ to 1½; Wheal Pevor, 11 to 11½; Wheal Uny, 3½ to 4.

—Mr. JOHN CARTER, mine shareholder, Camborne (Jan. 5), writes:—A quiet tone prevails in the Cornish share market, and prices during the week again show a decline, although at the close East Pool, Dolcoath, and Carn Brea are a little firmer, while other shares remain dull and neglected. West Frances declined to 16 sellers, Uny to 3½, and South Frances to 15½. Quotations are annexed:—Carn Brea, 25½ to 26½; Cook's Kitchen, 27 to 28½; Dolcoath, 88 to 89; East Pool, 45½ to 46½; East Blue Hills, 12s. 6d. to 15s.; Mellanear, 4½ to 5; New Cook's Kitchen, 3½ to 4; North Bury, 12s. 6d. to 15s.; Penrith, 3½ to 4; South Condurrow, 11 to 11½; South Crofty, 9½ to 10; South Frances, 15½ to 16½; Tincroft, 18 to 18½; West Basset, 15 to 15½; West Frances, 15½ to 16; West Pevor, 14 to 14½; West Poldice, 6 to 6½; West Kitt, 13 to 15; West Tolgus, 25 to 27½; Wheal Agar, 13½ to 13½; Wheal Basset, 5½ to 6; Wheal Grenville, 11½ to 11½; Wheal Hony and Trelawny, 2½ to 2½; Wheal Kitty, 1½ to 1½; Wheal Jane, 1½ to 1½; Wheal Pevor, 11½ to 12; Wheal Uny, 3½ to 3½; Wheal Kitt, 8½ to 8½.

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, share-brokers, Queen's Chambers, Market-street (Jan. 5), write:—Considering that the week has a day's business short consequent on the holiday of Monday last, and that as yet the year is so young a very tolerable amount of business has been done since our last report, and at figures exhibiting range of quotations fairly steady. The leading securities have moved rather unaccountably in face of the position of the money market, and the evident signs of hope for the future. Quotations are not changed in either direction to a sufficient degree to make any decided tendency.

BANKS, in anticipation, doubtless, of the dividends which should shortly be announced, are as a rule firm, with a few fresh advances, and the only instance of decline is in Manchester and County, which have lost ¼ of their late sharp spurt. The following are higher:—Manchester and Salford, ¼; Oldham Joint Stock, ¼; Manchester Joint Stock, ¼; and Lancashire and Yorkshire, ¼. INSURANCE, though showing rather more doing than lately, are still neglected, nevertheless changes in quotations are fairly divided between advances and declines. Higher: English and Scottish Boiler, ¼; Royal Liverpool, ¼; Queen, ¼; and Sea, ¼. Lower: Manchester Fire, ¼; Ocean Marine, ¼; Maritime, ¼; and Lancashire, ¼. A dividend for the half-year ending Dec. 31, at the rate of 20 per cent. per annum, free of income tax, is announced to-day by the Lancashire Insurance Company, and is payable on and after the 20th inst.

COAL, IRON, &c., AND MINING.—Considering the period a fair amount of business has passed, and stock, at 96, in leased lines, Londonderry and Enniskillen preference A, B, and C, stock are dealt in at 127. In debenture securities, Great Northern 4 per cent. stock is unaltered at 108; the 4½ per cent. stock, at 112; Great Southern and Western 4 per cent. stock, at 109½; Londonderry and Enniskillen 5 per cent. stock, at 127; Midland 4½ per cent. stock, at 112½. With reference to the sulphur mines of the County Wicklow, it is some satisfaction, after a very protracted period of depression in mining enterprise in this country, to learn that there are substantial evidences of returning prosperity to them. A firm in this city has just concluded a contract for the supply of 10,000 tons of sulphur from the Cronan Mine, Oyoca, County Wicklow, to be delivered here as required. This contract will be of great advantage to the shareholders, not less than to the mining community in the locality where the sulphur ore will be raised. It may be mentioned that the copper lodes here are associated with vast beds of bisulphureted of iron, which have hitherto rendered the abstraction of the more valuable ore difficult and expensive. This iron pyrites (which, when pure, is of a pale yellow colour) is so hard as to strike fire with steel, and crystallises in tubes and octahedrons; it consists of 100 parts of iron, 46½ of sulphur, 53½ of oxygen. When it is heated in close vessels it gives off a third of the sulphur, and the residue, which is dark grey, and is called magnetic pyrites, consists of iron, 56.76; sulphur, 42.24. Sulphur and copper ores are in no way distinct here, but graduate into each other. Thus, the copper ore of

very little has been done in the former class. Anglois of all issues, Directs, and Globe ordinary are all easier. Western and Brazilian, after receding, have rallied to a point ¼ better than last week's rates, and West India and Panamas are ½ better. Lancashire and Cheshire Telephones have been done repeatedly, and moved higher, but have since settled back to rates current at last report.

CANALS exhibit no feature save a rise of ¼ and 2½ respectively in Bridgewater Navigation ordinary and preference; a solitary transaction, however, comprises the business recorded.—CORPORATION STOCKS, &c., are credited with a few dealings, but prices are unchanged.—MISCELLANEOUS.—No movements of importance, and not many lots changing hands. Vin-Santes have rallied 1s. per share, but few are passing.

RAILWAYS.—The movements of importance are chiefly confined to Caledonian, Brighton &c., and North British, all of which are the best sustained. In the heavy lines a marked improvement was recorded early in the week, but this is partially lost. Sheffield, Great Eastern, and Lancashire and Yorkshire, and a few others have acted similarly. Canadian traffic last week stimulated bulls, and higher prices were touched than has been the case for some time, but these are again weaker in consequence of to-day's traffic announcements being only 364 increase on Trunks, and Chicago and Trunks only 606 increase. Americans have been a fluctuating market, and exhibit a distinct decline, the annual workings of the Lake Shore and New York Central Railways showing considerable and heavy losses as compared with last year. This has largely contributed to disturb holders and weak supporters of markets, hence the collapse in prices. The opportunity seems present for investors to buy and put away for six months, on which it appears more than probable a handsome return would be yielded.

HULL.—Mr. W. FOWLER SUTTON, stock and share broker, St. Mary's Chambers (Jan. 2), in his annual report, writes:—Herewith will be found my customary annual comparison of the values of local stocks, but as holders of these are generally interested also in those of our railways, I purpose prefacing my remarks on the former by reverting to a brief notice of the progress and present position of the latter. Twelve months ago I ventured to give the opinion I had formed as to the future courses of prices, more especially as regards the preference and debenture stocks, and a comparison of values shows that notwithstanding the important advance during 1880 the past year has, as I anticipated, seen a further one, and the average rise in the principal preference, guaranteed, and debenture stocks is respectively 2, 3, and 4 per cent. In several individual cases the advance is as much as 8 per cent., and it is a fact worth noting that the chief rise has been in the debentures. Throughout the year the demand for these descriptions has been steady, and at times the markets have been quite bare of them despite a gradual improvement the last few months in the value of money. This demonstrates pretty clearly that the class of investors in these stocks is not one likely to realise for commercial purposes when money is dear, and it is, therefore, a reasonable inference that there is not likely to be any material falling off in prices. Good railway debentures are practically as safe as Consols, and as long as they can be bought to pay even ¼ per cent. more interest they in all probability will be.

NEWCASTLE-ON-TYNE.—Messrs. J. S. CHALLONER and SON, stock and share brokers, Dean-street (Jan. 5), write: Local share markets have been rather more active during the last week. Iron shares are firmer. Darlington Irons continue in demand on the expected reconstruction of the company, since they have further improved 5s. per share, to 65s. Consett Irons, ½ higher, to 18½; 18½ pm.; Barrow Steel shares 1 higher, to 124, 125; Bolckow, 12 per cent., ½ to 17 per share. Other shares remain without any alteration in price. Palmer, B, 5 dis.; A, 28½; W. Cumberlands, 14½ to 15; Tharsis, 46.

#### SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, sharebroker and ironbroker (Jan. 5), writes:—During the past week the markets have been quiet, owing to the intervening holidays, but prices keep firm, owing to the satisfactory reports of trade, and the easier tendency of the money market. In shares of coal, iron, and steel companies, Bolckow, Vaughans have improved 1s. 3d. per share, at 16½ to 17; Marbellas are lower at 5½ to 6½. In the Scotch pig-iron market, the price of warrants declined to 50s. 10½d., but has since touched 53s. The demand for manufactured iron is very good, and the accounts received from all centres of the iron trade at home and abroad report activity of business and an upward tendency in prices; there is no stock anywhere of importance except in Scotland. Gnatley Iron are at 8½; Darlington Iron, 40s.; Llyvri and Tondy, 8½; Solway Hematite, 400; and Teasdale (preference), 36s. 6d.

In shares of foreign copper and lead concerns prices have again improved. Tharsis advanced from 45½ to 46½, but are now easier. The report of the Canada Copper show a loss of 2000t. in last year's working, so the shares have declined from 85s. 6d. to 31s., while the 500t. (6 per cent.) debentures are offered at par. Huntly lower, at 46s.; Panalcollo have touched 6d. 13s. 9d.; Rio Tinto, 31½; Pierrefitte, pref., 15s.; Taurus, 22s. 6d.; Vimeberg, 30s.; and Yorke Peninsula, 3s. 9d. to 6s. 3d.

In shares of home mines there has been little business doing. Glasgow Caradon firmer at 24s.; Blue Hills are at 43s. 9d.; Bell Vein, 30s. 6d.; Caspella, 7s. 6d. to 12s. 6d.; Cambrian, 5s. to 10s.; Carnarvon, 12s. 6d. to 17s. 6d.; Drakevalls, 10s. to 15s.; Devon Friendship, 15s. to 20s.; Devon Copper and Blende, 15s. to 20s.; East Wheal Rose, 15s. to 17s. 6d.; East Uny, 25s.; East Craven Moor, 5s. to 10s.; East Chiverton, 37s. 6d.; Great Polgoth United, 9s. to 11s.; Glenroy, 5s. to 7s. 6d.; Goginan, 30s. to 40s.; Gunnislake (Clitters), 7s. to 10s.; Great West Chiverton, 3s. 9d.; Great Holway, 5 to 5½; Indian Queen, 7s. to 8s.; Lady Ashburton, 2s. 6d. to 5s.; Mounts Bay, 7s. 6d. dis.; North Herodfoot, 7s. 6d.; to 7s. 6d.; New Wye Valley, 5s.; New Kitty, 40s. to 45s.; New Penrose, 7s. 6d.; Old Shepherds, 5s. dis.; Pandora, 12s.; Pelyn Wood, 7s. 6d. to 10s.; Penhale and Barton, 15s.; Prince of Wales, 15s. to 18s.; Pant-y-Mwyn, 10s. to 15s.; South Devon, 30s.; Silver Hill, 15s.; Tamar, 15s. to 20s.; Tin Hills, 10s. to 15s.; Treacran, 1s. 3d.; Treveline Consols, 15s. to 20s.; United Shepherds Wheel Rose, 4s. 6d.; Ynys, 12s. 6d.; West Pateley, 5s.; West Crebor, 5s. to 7s. 6d.; Wheal Agar, 14; Wheal Coates, 4s. 9d.; Wheal Jane, 30s.; Wheal Hony, 45s.; Wheal Fortune, 17s. 6d.; Wheal Owies, 9 to 11; Wheal Lusk, 2s. 6d. to 5s.; Wheal Union, 22s. 6d.

In shares of gold and silver mines the principal alteration is a further decline in Richmonds to 11½, sellers; Glasgow Golds are also easier at 9½, 13s. 9d.; Anglo-Californian are at 3s.; Akankos, 5s. to 7s. 6d.; Colombian Hydraulic, 3s. to 5s.; Central Wynad, 10s. to 15s.; East Sheboygan, 2s. 6d.; Eschequer, 2s. 6d. to 5s.; Flagstaff, 5s. to 7s. 6d.; Frontino, 6s. 9d.; Gold Hill, 5s. to 10s.; Great Southern Mysore, 5s. to 7s. 6d.; Indian Trevelyan, 15s. to 17s. 6d.; Indian Kingstons, 7s. 6d. to 10s.; London and California, 2s. 6d.; La Plata, 40s. 6d.; Mysore Hecla, 5s. to 7s. 6d.; Nava de Jadraque, 2s. to 4s.; New Gold Reef, 2s. 6d. to 5s.; Nouveau Monde, 8s. 9d. to 10s.; Olathe, par; Rhode's Reef, 13s. 9d.; Ruby, 42s. 6d.; and Utah Silver, 2s. 6d.

In shares of oil and miscellaneous companies there is no particular alteration to notice. Glasgow Coal Exchange shares are at 20s. to 25s.; Law's Chemical, 5½; Montrose Slate Quarries, 10; and Newcastle Chemical, 40s.

EDINBURGH.—Messrs. THOMAS MILLER and SONS, stock and share brokers, Princes-street (Jan. 4), write:—The market for home railway stocks has been well sustained during the past week, and in most cases an improvement has taken place. Caledonian has risen from 110 to 111½, Glasgow and South Western from 121½ to 122. This stock has been weak to-day on the decrease in the traffic return. Great North of Scotland has improved from 63½ to 64. North British after rising from 124 to 124½, has receded to 124. English stocks are generally higher. Canadian railways have been very good on favourable traffic returns. Although a portion of the rise has since been lost, the following improvements may be noted. Grand Trunk Ordinary has advanced from 16½ to 17½. The first preference from 96½ to 99, the second from 79½ to 82½, and the third from 34½ to 35½. Great Western of Canada shares have risen from 11½ to 12½. The American market after being very buoyant for a time has latterly been flat, and to-day there has been a heavy fall in some of the more speculative stocks. Compared with last Wednesday's prices, Erie show a fall from 41½ to 40. Philadelphia Reading from 35½ to 34½. Bank stocks in some cases show an improvement, and they all have maintained their prices. Bank of Scotland has risen from 297 to 300, National from 292 to 298, Union from 240 to 242, Clydesdale from 240 to 242, Commercial from 53½ to 54. In insurance shares Caledonian have receded from 83 to 82, and Northern have risen from 53 to 53½. In mines Canadian Copper have declined from 36s. to 32s. 6d. Tharsis have improved from 46½ to 46½. Oil shares have been quiet, but Young's Paraffin have risen from 10½ to 10½. Prairie Cattle shares have advanced from 16½ to 17½, and British Canadian Lumber from 13½ to 14.

#### IRISH MINING AND MISCELLANEOUS COMPANIES' SHARE MARKET.

DUBLIN, Jan. 5.—Mining securities have been comparatively neglected, the only transactions of importance being in Berehaven, which have made an advance of 1s., and in Killaloe States, which have advanced 3d. to 7s. 6d., and 8s. 3d. respectively. The railway share market is quiet, with a tendency towards firmness. Great Northern stock supports 117. Great Southern and Western stock has risen to 105½, 107, from 105½. Great Western stock is dealt in at 138. Midland stock ranges from 79 to 79½, 79, 79. In preference securities, Dublin and Wicklow (1880) 5 per cent. stock is dealt in at 118; Great Southern and Western 4 per cent. stock, at 105½; Midland 5 per cent. stock, at 120½; Waterford and Limerick 4 per cent. stock, at 96. In leased lines, Londonderry and Enniskillen preference A, B, and C, stock are dealt in at 127. In debenture securities, Great Northern 4 per cent. stock is unaltered at 108; the 4½ per cent. stock, at 112; Great Southern and Western 4 per cent. stock, at 109½; Londonderry and Enniskillen 5 per cent. stock, at 127; Midland 4½ per cent. stock, at 112½. With reference to the sulphur mines of the County Wicklow, it is some satisfaction, after a very protracted period of depression in mining enterprise in this country, to learn that there are substantial evidences of returning prosperity to them. A firm in this city has just concluded a contract for the supply of 10,000 tons of sulphur from the Cronan Mine, Oyoca, County Wicklow, to be delivered here as required. This contract will be of great advantage to the shareholders, not less than to the mining community in the locality where the sulphur ore will be raised. It may be mentioned that the copper lodes here are associated with vast beds of bisulphureted of iron, which have hitherto rendered the abstraction of the more valuable ore difficult and expensive. This iron pyrites (which, when pure, is of a pale yellow colour) is so hard as to strike fire with steel, and crystallises in tubes and octahedrons; it consists of 100 parts of iron, 46½ of sulphur, 53½ of oxygen. When it is heated in close vessels it gives off a third of the sulphur, and the residue, which is dark grey, and is called magnetic pyrites, consists of iron, 56.76; sulphur, 42.24. Sulphur and copper ores are in no way distinct here, but graduate into each other. Thus, the copper ore of



Ballymurtagh contains at least 30 per cent. of sulphur ore, and the greater part of the pyrites working in the same mine contain about 2½ per cent. of copper. The presence of from ½ to 1 per cent. of copper in the sulphur ore of commerce is not unusual. During the interruption of the Sicilian trade many years ago, the quantity of pyrites annually exported from the Wicklow district is considered to have reached 100,000 tons.

**CORK.**—Messrs. J. H. CARROLL and Sons, stock and share brokers, South Mall (Jan. 4), write:—Markets remain dull all round. Great Southern, however, done at 107, and Midlands also changed hands, at 79½. Bantons and Macromores unchanged. National Banks were done at 23½, and Munsters at 7½. Provincials and Hibernians unchanged. Cork Steam Packet shares were quoted ex div. T. Lys and Co.'s shares were wanted at 42. 16s., and Gas shares dull, 7½ to 7¾. Gouldings are 8½, ex div., and Harbour Board Debentures at 102½.

## Meetings of Public Companies.

### VIRNEBERG COPPER MINING COMPANY.

An extraordinary general meeting of shareholders was held at the offices of the company, Knight-riding-street, on Saturday, Dec. 31, for the purpose, as stated in the notice convening the meeting, of passing resolutions to wind-up the company voluntarily, and of appointing a liquidator. Mr. ALDERMAN HADLEY presided.

Mr. T. R. CLARKE (the secretary) read the notice calling the meeting, also the following report received from Mr. R. K. Roskilly, the manager of the mine:—

*Grube Virneberg, Dec. 29.*—I beg to hand you the following report on this mine for the general meeting on Dec. 31: Hadley Engine-shaft: In the winze in the bottom of the 120 metre level, south of this shaft, the lode has been cut into about 8 ft. For the greater part of this length the level has been in copper pyrites, and worth for that mineral fully 8 tons per fathom. In the forebore the lode has a most beautiful appearance, and its matrix has the same characteristics as in the upper levels just before meeting with the piece of ground standing between this (the present course of ore) and the mineral-bearing part of the lode immediately under the basalt. Judging from the favourable character of the lode in the end, the fact of having had a fine course of ore above both the 140 and the 120 metre levels in the hanging wall, and adjacent to the basalt, we may reasonably anticipate a productive lode in that direction, as well as confidently expect the same course in the 160 and deeper levels, the intersection of which will greatly enhance the value of this property. Seeing, however, that this can be cut through at deeper levels, and having a splendid course of ore under our feet to sink in, we purpose to strip down the sides of this level here in order to lengthen it, and with a view to resume the winze below this level, the sinking of which should be pushed on with spirit so as to reach the 160; as by the time the winze has attained that depth the 160 end will undoubtedly have reached the same point, a very important feature in opening up this section of the property. When commencing it will not only give good ventilation in this part of the mine, but will enable us to take away the ore ground in back of this level, both north and south of winze. In the sole of No. 2 winze in bottom of the 140, north of cross-cut, we have had several holes blasted, so as to see more of the lode; and it is with much pleasure I am able to state that this experiment has been attended with profitable results. The ore so far appears to widen as depth is attained, and the blende part of the lode (hitherto prominent here) is disappearing, and being substituted with copper ore, a most favourable change, especially in close proximity to the engine-shaft, the fact of the blende in the lode west of winze below the 140, south of engine-shaft, the fact of the blende in the winze north of cross-cut having changed to copper ore in depth (the importance of which cannot be too highly appreciated); as well as the beautiful channel of mineral-bearing ground beyond the slide in the 160 end, south of shaft, in which we may reasonably expect to meet with a productive lode; also the exceedingly favourable indications of meeting with a course of ore in the hanging wall immediately under the basalt—near to which in the upper levels the lode yielded very large quantities of that mineral—I feel fully persuaded that the development of deeper levels will ultimately open up a valuable property, from which large returns of copper ore may be confidently expected.—R. K. ROSKILLY.

The CHAIRMAN then said:—Gentlemen, you know this is an extraordinary general meeting called after our late meeting which was adjourned, I may say, for the purpose of ascertaining whether we could by another effort raise sufficient money on debentures to continue the working of the mine. Up to this moment I think we may say that we have received a sufficient amount that will justify the directors in continuing the further development of the property. (Hear, hear.) I do not think we should be justified, having received the support we have done to us, in closing the mine under the present prospects and conditions in which we find ourselves. Yet at the same time I feel that we must not relax our energy to endeavour if possible to get an additional amount subscribed, so that it can insure absolutely the future development of our property. Up to the present moment we have subscribed, in addition to the first issue, which was 1950*l.* of debentures, 3470*l.* That does not include the 1000*l.* advanced by the directors, which brings our total of debentures with the previous issue of 1950*l.* up to 6420*l.* at the present time. I am told that there is an additional 50*l.* come in since this meeting assembled, and there is no doubt whatever that we shall soon have more subscriptions. This would leave about 3500*l.* unused, and I think that it is possible with a little effort and energy on the part of not only the directors, but of the shareholders themselves, who are anxious for the prosperity of the mine, that a sufficient sum will be raised to prosecute the working. In that case, gentlemen, I can only say that it will not be necessary that we should pass any resolution at this meeting, as was intended for winding-up the affairs of the company, and appointing a liquidator. (Hear, hear.)

Mr. KINNEAR: I do not intend to go on under the present management?—The CHAIRMAN: I do not think that we could do better.

Mr. KINNEAR: I think we ought to try to get a better manager. I do not know Mr. Roskilly, and have nothing personally to say against him; only as the mine has been unsuccessful—it may not, of course, be his fault—I think it would be better to put it into other hands.

The CHAIRMAN: I am afraid if you attempt to change the management it will place you in a more serious position than you are at the present moment. Personally, I do not know where we could look in the whole of England for anyone that we could send out to the mine equal to the manager that we have already on the ground. He fills an exceedingly difficult position, it being necessary that whoever is sent there should understand and be personally conversant in fact, with the German language. I have had a good deal of experience in such matters, and it goes to convince me of this—that it would be most injudicious to change the management at present without some just cause.

Mr. MORISON: I gather from the Chairman that he is satisfied with the present management, and I think it would be almost tantamount to a censure on the directors if the shareholders proposed any change in the management. We have been successful in the past, and what I think is still more necessary is that we should have there a man who is otherwise competent to carry on the mine, and Mr. Roskilly seems to fulfil both those conditions.—Mr. SMITH agreed with this remark.

Mr. JOHNSON: I asked Capt. Holman at our board meeting whether he thought that we had got an efficient manager, and his reply was satisfactory.

The CHAIRMAN, in answer to a question put by Mr. SMITH, explained that the whole of the machinery at the mine was in splendid working order, and kept in a state of good repair, and all that was wanted at present was capital to extend the development of the mine.

Mr. MORISON: Supposing the worst came to the worst, and we had to close the mine, I take it for granted that there would be ample security for the repayment of the debenture stock.—The CHAIRMAN: I should think so. Mr. Keith when he was out there valued the property as it stands—that is to say, the buildings, plant, machinery, and development—at 40,000*l.*

Mr. MORISON: I cannot understand that that a body of shareholders having 90,000*l.* at stake would rather let drift away from them than subscribe a little more money with the chance of making it a good property. The confidence that I have in the management of the mine has been such that I have taken as much debenture stock as I hold in the ordinary stock, and if anything like that confidence was shown by some of the other shareholders I think we should not have to wait long for the money.

The CHAIRMAN: We know that there is a great demand springing up for copper in many ways, as for instance for electric light and telephonic purposes throughout the kingdom, and indeed throughout the world, and as the supply of copper this year is considerably less than it has been since 1877, with a continued scarcity in the market, it is only natural to suppose that with an increased demand for it, we shall have a great increase of price for that metal next year. I beg then to read the following resolution which I will leave to someone to move and second. "Having heard the manager's report read, and having in view the number of debentures already applied for, and the favourable changes not only in the mine but also in the copper market, it be resolved to continue the working of the mine."—Mr. MORISON moved the resolution, which was seconded by Mr. HIDE, and carried unanimously.

The meeting was then resolved into the ordinary general meeting of the shareholders, the notice calling which was read by the secretary. He also read the report of the directors and statement of accounts, which said:—

The directors present the general balance-sheet to Sept. 30, 1881, with the profit and loss account for the year ending on that date. The circumstances of the mine are so well known to the shareholders that it would be useless to refer to them at length. It may, however, be desirable to say that much time has been occupied in cutting through the lode at the 160 metre level, the footwall not having yet been reached. A level has been driven south from the 160 cross-cut towards the ore ground below the 140, but although this has produced some copper ore it is not sufficiently advanced to come under the profitable part of the lode, on which the 140, 120, and 100 metre levels were driven. Meantime, two had to be suspended on account of the water, but the better of the two has subsequently resumed on the water being let down by the 160, which is evidently, therefore, on the same level. In this winze the lode has proved exceedingly rich, containing a course of ore 4 ft. wide, and worth, according to the manager's report, fully 6 tons of copper ore per fathom. This discovery is of vital importance, and needs to be developed the magnificent lode exposed in the winzes. It is with much pleasure that the directors are able to refer to a substantial rise in the price of copper; judging from the condition of the market the rise seems likely to be permanent, and there are indications of further improvement. At the last general meeting a suggestion was made by some of the shareholders to increase the rate of interest on the company's mortgage debentures from 6 to 10 per cent., and the directors, with promises of considerable support from the share-

holders and others, yielded to the suggestion; but in the interval occupied by the necessary legal consultations, and when it was too late for the directors to withdraw from the management, several who had promised large subscriptions failed to take up the debentures, consequently, the directors found themselves with somewhat less debenture capital after the change than before. They were compelled, therefore, to contract the scale of working in accordance with the funds in hand, and the result has been that the fixed charges for management, pumping, &c., have borne a much greater ratio to the output, and brought about a loss on the year's working, which, however, is more apparent than real. The stock of ore at surface has been taken in at a reduced rate this year, as a portion of that which has been treated has turned out not equal to the estimated produce; moreover, the depreciations, amounting to 75*l.* 14*l.* 11*l.*, form a considerable portion of the year's loss; and, further, as already stated, the greater relative amount of the fixed charges must be taken into consideration. In consequence of the want of funds to properly develop the mine, arising from the causes mentioned, the directors found it necessary to call an extraordinary meeting of shareholders, for the purpose of submitting resolutions to wind up the company voluntarily; but on the favourable changes that have taken place in the mine and copper market, a vigorous effort has been made by the directors and some of the shareholders, which has resulted in an amount being promised in the shape of debenture capital, such as to enable the directors to continue the working most necessary, with great prospect of achieving successful results. They hope also very shortly to be able to place the balance of the debentures, or the greater part of it, so as to further extend the scale of operations. The copper ore sold during the year has realised 5304*l.* 8*l.*, at an average price per unit of 11*l.* 8*l.*, for an average produce of 12½ per cent. by dry assay. A parcel was sold on Oct. 11 realising 684*l.* 6*l.* 10*l.*, at an average price per unit of 11*l.* 11*l.*, and a further quantity on Dec. 6, of which the account sales are not yet received; the approximate value, however, is 696*l.* 19*l.* 6*l.*, and the average price 12*l.* 7½ per cent. The liabilities in England include, among other items, an advance of 1000*l.* for which the directors were personally responsible, and they have since paid the amount in return for debentures; they also include a sum of over 1000*l.* due to the directors for remuneration up to the time of balancing. The directors hope and believe that during the remainder of the present year the position of the company will be materially strengthened, and they, therefore, look forward with confidence to meeting the shareholders next year with a much better statement than at present possible. At this meeting two directors retire by rotation—Mr. Alderman Hadley and Mr. Thos. Dickens, J.P.—both of whom are eligible to offer themselves for re-election. The auditor, Mr. E. W. MORISON, moved the adoption of the report and balance-sheet, which was seconded by Mr. HIDE, and carried *con. sensu.*

Mr. JOHNSON next moved the re-election of the two retiring directors, Mr. Alderman Hadley, and Mr. Thos. Dickens. The motion was seconded and carried unanimously.—Mr. HADLEY briefly returned thanks.

On the motion of the CHAIRMAN, seconded by Mr. KINNEAR, Mr. Frederick W. Smith was re-elected auditor; and votes of thanks having been passed to the Chairman and secretary, the proceedings terminated.

### ALMADA AND TIRITO CONSOLIDATED SILVER MINING COMPANY.

The twenty-third half-yearly general meeting of shareholders was held at the offices of the company, Finsbury-circus, on Friday, Dec. 30, Mr. W. M. MARTINEAU, M.L.C.E., the Chairman, presiding.

Mr. J. ARTHUR MORGAN (the solicitor and general manager) read the notice calling the meeting. The report and accounts were taken as read.

The CHAIRMAN said the report which the directors were able to present for the past year would not, he was afraid, be considered as a very satisfactory one; but it was the duty of the board to put the facts clearly before the shareholders as they were, and not in any way make things different to what they really were. The report given by Mr. Clomes was so detailed that there was nothing to refer to up to that time on that score; but since the publication of that report he was happy to say the directors had received some fairly satisfactory information. (Hear, hear.) They had received a fresh mining report (which would be circulated), but which was of so technical a character that he would not read it now. The interesting points to which he would allude were two telegrams, the first of which arrived nearly a month ago, but the terms were so vague that the directors could not understand it. It came through a new route which Mr. Clomes was using, and it did not seem to come very clearly; he telegraphed to the City of Mexico in Spanish, and it had there to be translated and sent on, and it was translated so badly that the meaning was not apparent. But the board had since received a letter from Mr. Clomes, dated Nov. 26, and the telegram really should have been as follows:—"Discovered ore pillar, Mina Grande; fair size." In his letter he said:—

"After clearing the hole made by the cross-cut from the rise into the old works we found the pillar between our old stop and San Juan, we at once telegraphed you, because the ore in the pillar is good, and the block of fair length. We cannot give you any dimensions yet, after rising a few feet we shall drift in the pillar. We shall not cause any false impression by calling with so little data, because Mr. Harris says he has seen enough to know that the block adds at any rate two months to our reserves. We shall probably have to make a sketch to explain this discovery to you."

It was evident that the word "pillar" did not convey a fair idea, but that it was a good body of ore left by the old workers to support the workings, particularly of blank ore, which was of no use to them. Since then the directors had received further telegrams:—"We have remitted 5000*l.* to the American ton of 2080 lbs." Mr. Morcom, the former underground manager, had written Mr. Morgan in connection with this subject, and had stated that he considered the discovery very important and satisfactory. Therefore, they had evidently struck the east or parallel lode, which gave promise of what they wanted—an increase of the ore. The reduction works were now producing over 8000 per cent. silver. He had returned for the last four weeks, which amounted to 22455*l.* of silver, and 68191 per cent. of silver. As long as they had the reduction works could now, in the season, turn out that amount of bullion without difficulty. When he said "during the season" that led him to mention that the directors were now considering a proposal as to whether it was not desirable to stop the work to a considerable extent, or altogether, during the unprofitable months. Anyone who paid attention to the working of the mine would have noticed that during May, June, July, August, and sometimes during a portion of September, the company never worked at a profit, and the board were now considering whether it would not be better to stop work during that period, and confine operations to really necessary operations, for during those months labour was scarce and dear, water was also scarce, and they could not, as he had said, work profitably. The scarcity of water might, of course, be obviated to a considerable extent if they had the means to erect an automatic mill which crushed dry. Such a mill would require but very little labour, and the company would make more profit out of the reduction than now. But that was a question of capital, and it was in the hands of the shareholders as to whether they would find the capital, and put up the new mill; although if Mr. Clomes were able to continue the work, they would be able to lay by some money out of the funds of the company. If it were done it might be the means of enabling the company to work a large proportion of the year at a profit, which they could not now achieve. Mr. Clomes certainly has achieved wonders with the means at his disposal. With respect to the price of silver, it had varied but very little during the past six months; it was a shade better. They could only hope that circumstances might bring about a still further improvement in the price of silver. With regard to the management at the mine, it was due to Mr. Clomes that the directors had seen a report furnished by a very high authority in America upon mining—a gentleman who was very specially by capitalists in New York to report upon a mine in the neighbourhood of this company's property. He was not at liberty to allude to it further, as the only copy of the report sent over here had been sent in strict confidence; but he might mention that the gentleman to whom he alluded took occasion to visit this company's mines, and he spoke in the highest terms of the management and the reduction works, and also of the mine management, and the way in which Mr. Clomes managed the property, and spoke of it as the best managed mine in Mexico by far. (Hear, hear.) Therefore, the shareholders would see it was owing to no lack of confidence in Mr. Clomes's management that they were not able to give better results. Mr. Clomes pointed out the best means to attain success, and the directors, as far as they could, must follow it. The directors believed that if they almost entirely stopped work during the unprofitable months, they would be able to show better results for the next six months. Referring to the accounts, he said there might be some doubt about the way in which the debenture capital was stated; it appeared that there was 17,000*l.* of debentures out, but the actual amount was 15,500*l.* The fact was the debenture capital was due, and there was a certain amount of money issued, but since June 30 an equivalent portion of the debenture capital had been cancelled. It would be seen that there was 109*l.* charged for commission; that was on the 2185*l.* The remainder would come into the accounts for the present six months. In conclusion, he (the Chairman) moved the adoption of the report and accounts.

Mr. A. F. FLETCHER seconded the motion.

Mr. HENRY SWAFFIELD (one of the auditors) said no doubt there had been a serious falling off in the productiveness of the mine, but they must consider themselves fortunate that the ore body at Mina Grande had lasted so long. The recent advances were very satisfactory; and as explorations were still going on they might hope that by-and-by fresh ore bodies might open out, which would prove more lasting in character and better in quality. With regard to the erection of a new mill to reduce the ore by a new process, Mr. Clomes did not recommend, as he understood it, the erection of such a mill at the present time. No doubt it was a desirable thing to be done if the mine improved. In the meantime the directors must economise expenditure. He thought the suggestion for limiting operations during the dry months, when labour was costly and water scarce, was a good one. He said so much merely to lead his brother shareholders to expect better things, although things were depressed now.

The CHAIRMAN read an extract from Mr. Clomes's letter, in which he stated his belief that if they had a dry mill they could earn a profit.

Mr. D. B. KERSHAW (a director) pointed out that, as they had since discovered a new body of ore, the question as to the erection of a new mill became still more important. If they found a parallel lode it would really open up a new mine.

Mr. MORGAN, by means of a plan and section, explained the position of the workings, and said that the cross-cut east had been driven 130 ft., and there was a body of ore, the question as to the erection of a new mill became still more important. If they found a parallel lode it would really open up a new mine.

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Mr. KERSHAW said it would also traverse the Dios Padre Mine.

The CHAIRMAN: We hope six months hence we shall report that the discovery has been opened up and will really hold on.

The resolution for the adoption of the report and accounts was then put and carried.

On the motion of Mr. SWAFFIELD, seconded by the Rev. Mr. TIPPER, a vote of thanks was passed to the Chairman and directors, and the meeting broke up.

### NEW KITTY MINE COMPANY.

The four-monthly meeting of shareholders was held at the office, Walbrook, on Wednesday.—Mr. JOHN B. REYNOLDS in the chair.

Mr. F. J. HARVEY (the secretary) read the notice calling the meeting. The balance-sheet, which showed a balance of cash at the bankers of 312*l.* 6*l.* 3*l.*, with no liabilities due and unpaid, was also read.

The CHAIRMAN: I understand there are no arrears of calls.—Mr. HARVEY: None.

The CHAIRMAN: And there never have been in this company?

Mr. HARVEY: No, Sir.

The CHAIRMAN said he might draw attention to the fact that the balance at the bankers was 312*l.* 6*l.* 3*l.*, as against 303*l.* at the last meeting. The Chairman then went on to say:—Gentlemen, this being Jan. 4 we will, at the outset, wish each other a happy and prosperous new year. (Cheers.) We meet to-day under circumstances which are full of encouragement for us as New Kitty shareholders, and no doubt we shall have a thoroughly satisfactory and hearty meeting. (Hear, hear.) For about two years we have been working within our mineral rights, and have not failed, in accordance with the recommendation of Capt. Vivian, to have those mineral rights extended as our requirements have demanded. We have been singularly fortunate as to the manner in which our applications for additional ground have been met by the lords of the manor, and we may rest assured that there is nothing which they can do for us that will not be cheerfully and promptly done. We have secured their goodwill by the regularity, promptitude, and energy with which we have carried on our business since the commencement of our operations. The lords seem to have the notion that we mean to succeed. (Cheers.) The engine and pitwork recently put into proper position continue to do admirable duty, and there is no reason whatever to doubt that we shall cut the West Kitty lode in the engine-shaft in a comparatively short space of time, and then our own power, so far as pumping is concerned, will meet all demands upon it. The water being particularly light. We have, as Captain Vivian will tell you, already met with what is commonly known as Lynam's lode, and concerning this interesting particulars will probably be disclosed to-day. We should not forget, in making our calculations, that our experience proves to us that the lodes in this district are especially liable to considerable and unlooked-for improvement (hear, hear), as illustrated by the progress of our prosperous neighbour West Kitty. The prominent fact upon which apparently we can rely is that the average result of driving on the West Kitty and Lynam's lode has been everything that those interested could desire. At all events such seems to be a fact which is indisputable. The lodes have not only paid, but paid handsomely, and this knowledge is the reason our financial requirements are so willingly and indeed cheerfully responded to. We have amongst us thoroughly practical men of business, who judge for themselves as to the probabilities of success. They do not rely entirely even on the very clear and forceful observations made from time to time by our excellent manager, but they seek independent testimony, and we are bound to say that we cannot for our part cast a shadow on the expectations in which they indulge as a consequence of their searching investigations. We are fully alive to the fact that if a flaw can be found in our management it will be found, and we are also quite as well aware that no adverse criticism is ever wanting to impede the progress of those who are endeavouring to reach the summit of success. Nor is this to be regretted, for we are persuaded that there never was such a time when healthy and fair criticism was more needed in the management of our mines than it is to-day. (Hear, hear.) Indeed, gentlemen, you have no right to complain of the charge which is brought against mining officials to the effect that their ideas of progress do not favourably compare with those of business men generally. We are undoubtedly much wedded to those systems from which it would have been well if we had broken away long ago. But, gentlemen, it is not true that we are conducting the business of our companies on the old Cost-book System, a system which we readily admit was open to greater abuse than was consistent with the safety of any shareholder. You must bear in mind that we transact our business under the Act of 1869, which was intended to meet the undeniable objections to the old Cost-book System, and which does meet such objections so completely as to enable us to carry on our business on the "no credit" system, a system which involves, we are prepared to prove, the very essence of Limited Liability. (Hear, hear.) But it is a remarkable fact that prior to the passing of the Act of 1869 we had no power to anticipate our expenditure by providing for it. Neither was the expenditure ever under the control of those who had to find the money. Fortunately for us those who vote the supplies in this company do control the expenditure, and the committee have no power whatever to incur any obligations which have not our sanction. Thus with the management of our affairs in our own hands, and taking care to manage our affairs in our own way, we find ourselves free from all debt, with a credit balance at our bank, and in the enjoyment of an amount of public confidence which, as far as we know, is not exceeded by any mining company in England. (Cheers.) We know, and we regret the fact, that ours are almost the only mines which have formally adopted this "no credit" system; indeed, the business of one company came under our notice the other day where no less than 400*l.* per annum is paid to bankers for overdraft. That policy we not only disown but absolutely reverse, and if we in our wisdom think it right at any time to suspend our operations we shall always have our mine, machinery, and plant unencumbered by any debt whatsoever. We have no hesitation in saying that those gentlemen are right who assert that it is as safe to have your name on the books of a "no credit" company which conducts its business under the Act of 1869 as it is to have one's name on the books of the Bank of England. Now, gentlemen, this system involves innumerable advantages, which will be obvious to us when we look at and carefully consider it. But as a comparatively new system it is certain to have its critics. We see that it does not commend itself to the lawyer because there does not result from it a haul of coils for the incorporation of Articles of Association, and so forth. The professional accountant does not like it because under its provisions it will be impossible for us to pass the resolution upon which most of his livelihood depends—"That it has been proved to the satisfaction of this meeting that inasmuch as this company by reason of its liabilities is unable to carry on its business." &c. Now, gentlemen, that resolution with which some of us who have been engaged in carrying on business in Limited Cornish mines, and which has become so familiar and repugnant to us, will never be found on the books of New Kitty so long as we keep on those lines which we have so distinctly marked out for ourselves, and so long as we continue to adopt a principle which we have placed at the very foundation of our constitution. The merchant does not care to commit himself by approving the company adopting the system is invariably rigid in demanding the discount instead of paying the interest, and persisting in going to the very cheapest market. The banker equally hesitates to give his approval for the reason that if some of our leading mines reversed their practice by adopting the "no credit" system, and anticipated expenditure we do, the bankers would lose from many sources the profits per annum which they now receive. (Cheers.) So you see, in point of fact this "no credit" system benefits nobody but the shareholders who adopt it.—(Hear, hear.)—and we submit that their interests ought to be the only interests to be considered. That the public are of the same mind is getting more obvious every day. If this be not the case, how can you account, gentlemen, for the premiums which the shares in this office command, particularly as they are held by persons who have not been influenced by us, and who reside in all parts of England. Shrewd business men are keen enough to detect the enormous saving in every department by this "no credit" system, and we are deeply impressed with the fact when we remember that never have we heard a word of dissatisfaction from any shareholder either concerning the mine or its management. (Hear, hear.) Gentlemen, a thorough bred Englishman needs nothing more than fair play. Let him be certain of receiving that, and he will not grumble. We believe that this system which is so popular, can be adopted as well by our large-producing tin companies as by those the business of which is more restricted, and we are quite sure that by the adoption of this principle throughout Cornwall mining will be raised as an investment from a somewhat unpopular one to one which is full of attractive investments of the day. This, gentlemen, is not the language of exaggeration, but a conclusion deliberately arrived at after a fair and impartial trial of our regulations. (Hear, hear.) Now, gentlemen, need we trouble you with any further particulars with regard to this 8*l.* Agnes district, the property of which is so keenly watched by you. We think it will be sufficient for us to say that our success will be as important to the locality as the success of West Kitty, and that the time is not far distant when every shareholder in our mine will wonder how it came to pass that he did not secure a larger number of shares when he could have done so at such low rates. This, we know, a strong expression of opinion, and it is possible our attention may be drawn to it on a future occasion by way of reflection on our judgment. But, nevertheless, the fact which is most powerfully impressed upon our minds to-day is that we have never spoken in such strong terms of commendation of West Kitty as we ought to have done, and our friends blame us because we were not more outspoken. It is for this reason, gentlemen, and this reason only, that we speak of New Kitty as we have spoken to-day, seeing that the relation between the two mines is so close, and that their prospects, as far as it is possible to forecast them, appear on the whole to be identical. (Loud cheers.) I have much pleasure in moving, gentlemen, that the balance-sheet and vouchers now presented be and are hereby adopted and passed.

Mr. LENOX said he had very great pleasure in seconding the motion, especially after the able and lucid address of the Chairman, worthy of that gentleman, and containing weighty words and strong arguments in favour of the "no credit" system which had been adopted by this company. He had carefully inspected the balance-sheet, and on several occasions he had looked over the accounts of one or more of these mines, and he had always been struck with the clear, easy, and correct way in which the accounts were kept, and in which all the business had been set in order, so that any one could readily understand and take in the whole thing. (Hear, hear.) When he looked at this balance-sheet, there were two or three things which struck him; one was, that instead of there being an overdraft banking account, with heavy interest to be charged on the funds of the company, there was really a very handsome balance of 312*l.* 6*l.* 3*l.* in hand. Another thing which struck him was that there were no arrears of calls, and in these bad times, when so many shares were mortgaged in Cornwall of which they read in the *Mining Journal*, showing that mines were bad, and seeing that they had just turned Christmas, when people were rather in the habit of putting on the screw—(a laugh)—the fact that there were no arrears of the calls, showed that the shareholders were convinced that they had good value for their money, and that there was a fairly reasonable prospect of this mine developing into a valuable property, the same as the West Kitty. (Cheers.) That was his belief, and he held in accordance with his faith in the matter. Another thing was, that Capt. Vivian, whom they had esteemed and thoroughly trusted, was enabled to get for the shareholders little pickings in the shape of discount from the merchants. No doubt the merchants would rather have the full amount than give the discount. Again,



from this gelatinous mass is effected directly by heating it to a high temperature. By this means a large quantity of petroleum is obtained much exceeding the quantity obtained by the present processes, and the petroleum is of perfect purity. This results because the soap mixed with the crude petroleum retains the heavy oils and

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ulphur compounds, and prevents them from passing over with the petroleum, contrary to what happens in other methods of distillation. The purity of petroleum obtained by this new process renders it unnecessary to employ soda and sulphuric acid to clarify it; this, besides the considerable economy which results, constitutes a very great advantage, the presence of sulphur compounds in illuminating oils being injurious. This purified petroleum is very suitable for burning in wick lamps, and the wicks are less charred. If the distillation is stopped after the extraction of petroleum, the residue is a grease, which contains neither lime nor acid, and is very suitable for use as a lubricant.

#### REPORT FROM CORNWALL.

Jan. 5.—As usual the first week of the year is almost barren of mining incident. Business is restricted and prices show no material change, which is precisely the ordinary condition of affairs ere there is a recovery from the temporarily depressing effects of the Christmas holidays. Yet there are a few people who, not having the experience of the past before their eyes, and not being able to look beyond the immediate present into the future, are either scared or pretend to be by the fact that there is an increase of tin stocks. It would be very strange if there were not. Christmas and the end of the year is on one hand a season in which all who have sold are as urgent to deliver as possible, and those who wish to sell are exceptionally pushing; while, on the other hand, no one will buy save under pressure of necessity or exceptional pecuniary inducement—if he can carry the matter on into the next quarter. We attach no importance of a permanent character whatever to this casual swing of the supplies, any more than we do the highly coloured statements about the prospects of Australian produce which have been amplified out of what were originally simple matter of fact statements enough and set afloat. We need not be afraid of antipodal competition while prices continue moderate; and that is just the reason why we hope so far as our tin is concerned that we are not very far off the highest point.

If we believed in omens we might take the result of the first mine meeting for the year as a good augury. That Levant should have made 1300*l.* profit on the 16 weeks is a very satisfactory and encouraging result. With tin very little better than it is, but with a fair price for copper, we believe the dividend mines of 1882 would nearly double those of 1881.

The Mining Institute has made an excellent choice in its President for the current year. No one has a wider experience in mining and allied engineering, both at home and abroad, than Mr. W. Husband, and no one now living is so thoroughly versed in, and so fully represents, the traditional engineering skill and character of the county. We may look for some very important practical results from his term of office, and fresh laurels won by him and for the Institute itself.

Our review of 1881, given last week, was incomplete in its reference to the casualties by the accidental omission of the most serious of all, which occurred when the year was only a few days old—that caused by the drowning of Cathedral, in Gwennap. The sad event directed attention to the urgent need of the greatest caution being exercised in driving in the neighbourhood of old workings, but since then we are not aware that the subject has had further attention in any way.

#### TRADE OF THE TYNE AND WEAR.

Jan. 4.—There is not much new to report about the coal and iron and other great staple trades of this district. The holidays have to some extent interfered with the progress of trade and with the shipments of coal, &c. As we have lately reported, trade generally has a more healthy tone than has been experienced during the past few years. Coalmasters and merchants and fitters are generally demanding higher prices, and will not enter into contracts for future delivery at present rates. The demand for steam, gas, and coking coal continues very strong. House coal is rather weak, but this is owing to the fact that so far the winter has proved extremely mild. Looking at the present demand it is clear that the advent of cold or severe weather would immediately cause an increased demand for Durham house coal. A dispute has occurred at the Ushaw Moor Colliery, near Durham, which belongs to Mr. Chaytor, of Wetton Castle, which has resulted in a strike, and part of the miners have been ejected from their houses in a summary manner only a few days after the occurrence of the strike. It appears that there has been discord here between the masters and workmen for some months, but the reason for these frequent quarrels is not clear. There is no dispute as to rates of payment between the parties. The discharge of a man who was an active Unionist appears to have to some extent brought about the present strike. Most of the miners employed are members of the Durham Miners Union, but Mr. Chaytor, the owner of the colliery, is not a member of the Coalmasters Association, and it appears that he has a considerable amount of antipathy to miners Unions. This at the present day is unusual. A little forbearance on both sides would prevent these disagreeable occurrences. A firm Union on both sides, with a recognised sliding scale for the regulation of wages, afford the means for preventing these pests to industry and progress. The Durham Miners Union have, as a rule, always conceded the right of the masters to employ whom they think fit, and also discharge whom they choose. It is to be regretted that the matters in dispute here have not been referred to arbitration.

The exports of coal and coke from the Tyne in 1881 will be found we believe to have been considerably in excess of the previous year, but the official account has not been published. The accounts of the exports from the Wear have been made out to November 30 last, from which we learn that for the 12 months ending on that date the coal shipments were 3,588,640 tons, the shipments in the previous year having been 3,573,483 tons. In 1880 the coal shipments from the River Wear were 1,718,427 tons; the exports of coal have, therefore, more than doubled during that period. We have learnt from a reliable quarter that the shipments of coal and coke from the Tyne Dock alone during the year 1881 will not fall short of 5,000,000 tons.

The iron trade has been considerably affected by the holidays. Business has been very quiet. There is no change in prices. Holders are very firm, whether for present or forward delivery. Makers expect much higher prices when the spring shipments come forward. In Cleveland great progress has been made during the past year. An attempt will be made by the leading creditors of the Bishop Auckland Ironworks to form a company to work them. Prices of finished iron remain firm. Ship-plates, 7*l.* 5*s.*; bars, 6*l.* 10*s.*; pig-iron, 43*s.*, No. 3. Messrs. Connall's stock is now 175,965 tons, an increase of 345 tons on the week.

THE NORTH OF ENGLAND IRON TRADE FOR 1881.—The iron ore consumed in this gigantic trade is derived from various sources, but the main bulk is got from the mines of Cleveland. Considerable quantities, indeed, of Spanish hematite ore is imported, which is used for admixture with the Cleveland ores, and some of the valuable hematite ores of Cumberland are also used for the purpose, but the improvement effected in the process of making iron in late years has had the effect of enabling makers to a great extent to dispense with those foreign high class ores. The iron ore mined in Cleveland in 1880 reached a total of 6,441,783 tons, and it is expected that a similar quantity will be found to have been mined in 1881. There are now about 8000 miners employed in the Cleveland mines. The make of pig-iron in Cleveland in 1881 has surpassed the make in any previous year, reaching about 2,670,000 tons, against 2,510,853 tons during 1880. This includes about 700,000 tons of steel-making iron, against 519,821 tons of the same kind of iron last year. The manufactured iron trade has been very brisk during the year, the total production in the Cleveland district, which includes the whole of the North of England, having amounted to 633,000 tons, against 560,000 tons in 1880. All the manufacturers are so busy that they are much pressed for delivery. Prices have advanced, and are now based on ship-plates selling at 7*l.* per ton. The steel trade of Cleveland is extending, and iron shipbuilders on the Tyne, Wear, and Tees, have work on hand which will keep them busy during the whole of 1882. A leading feature of the steel trade of late has been the shipment of steel rails for India and Australia. In the week ending Dec. 24 5000 tons of steel rails were shipped from the Tees.

The iron shipbuilding trade, as we have observed in this letter,

has made great progress on the Tyne, Wear, and Tees during the past year. Three years ago, ship-plates were 98*s.* per ton, the present price is 145*s.* Messrs. Palmer and Co., Jarrow, stand at the head of the local shipbuilding firms, and Messrs. Mitchell second. There are 13 of these firms on the Tyne, 13 on the Wear, and three on the Tees.

THE WEARDALE LEAD MINES OF MR. BEAUMONT, M.P.—Earl Stanhope has written a letter which is a reply to that of Mr. Beaumont, the latter having thrown the "blame of closing the lead mining operations in Wardale on the Ecclesiastical Commissioners. His lordship points out that the Commissioners have already reduced the dues from one-fifth to one-thirteenth of the output. On Mr. Beaumont applying for a further reduction of rent, the Commissioners asked for information as to the receipts and profits during the past ten years. This Mr. Beaumont refused to give, and Earl Stanhope says that this is the cause of the stoppage of the mines. Mr. Beaumont, moreover, gave them no notice of the closing of the mines. Arbitration has been suggested as a means of solving this difficulty, and it is hoped that this means will be resorted to shortly.

In the chemical trades on the Tyne, the movement for a reduction in the make has now been carried out to a considerable extent. A large part of Messrs. Tennant's great works at Hebburn have been closed, and others are to follow this example. A reduction of the make to the extent of 25 per cent. will now be fully carried out.

Mr. Moore, who has long filled the important post of engineer at the Hetton Collieries with great credit, has, owing to age and ill-health, resigned, and his place is to be filled by Mr. G. W. Ross, at present engineer at Ryhope Colliery, near Sunderland. Mr. Ross was many years at the Silksworth new winning, and was some time ago President of the Colliery Engineers' Institute.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Jan. 5.—Pig-iron is scarcely so tight in price this week as it was last. The exception relates to the higher class of hematite pigs, for which there is a demand on steel as well as iron making account. This sort of iron cannot be got delivered in this district at less than 3*l.* 15*s.* per ton. All-mine pigs are easier at from 3*l.* 10*s.* down to 3*l.* 5*s.* Part-mine pigs are 3*l.* down to 2*l.* 15*s.*, and cinder pigs are 2*l.* 7*s.* 6*d.* to 2*l.* 5*s.* The markets are less strong because of the expectation which has now become almost general that there will be no declared alteration in the prices of "marked" iron at the quarterly meetings next week, when, it will be remembered, it had been thought that prices would be put up either 10*s.* or 20*s.* Yet there was some talk on 'Change in Birmingham to-day that advances will be declared on Feb. 1.

Quotations for finished iron are less strengthened than a week ago for the same reason. At the same time buyers are this week less anxious to induce makers to book their orders. Nevertheless there has been a fair amount of buying both by the consumers of sheets for galvanising and likewise of strips, which have been bought by American consumers, who have by cablegram accepted makers' prices. Most of the mills and forges at which medium and common iron is rolled are well employed in most of their departments. High class iron is not, however, in equal active demand. There are marked bar firms who are doing scarcely more than half work. Prices remain from 8*l.* 2*s.* 6*d.* to 7*l.* for marked bars, from 7*l.* to 6*l.* 15*s.* for medium bars, and from 6*l.* 15*s.* to 6*l.* 12*s.* 6*d.* for common bars. Wolverhampton iron merchants on Tuesday put up common and medium bars 10*s.* per ton; and on Monday Messrs. Davies Brothers advanced the price of their plain galvanised sheets 30*s.* per ton. Coal remains easy to buy at the recent strengthened prices, but there is much complaint at the household collieries that the mild weather is keeping quotations weaker than usual at this period of the year.

A monthly meeting of the South Staffordshire Mines Drainage Commissioners was held on Wednesday, in Wolverhampton, and it was announced by the Chairman (Mr. Walter Williams) that at the next meeting there would be a proposition to borrow from 25,000*l.* to 30,000*l.* towards the necessary expenses of draining the Old Bilston district. The arbitrators recommended the filling up of 110 open disused shafts, at the cost of 1762*l.* The surface works they reported had cost 193,347*l.*, and to complete other necessary works a further 26,000*l.* would be needed; but with new pumping machinery the pumping expenses might be reduced by 5000*l.* a year.

The Quarterly Meeting of the North Staffordshire Iron and Coal Masters' Association was held on Thursday at Hanley (Mr. Wragge in the chair). The reports as to the condition of trade showed that there was a fair steady demand for finished iron, pig iron, and ironstone; but it was scarcely so brisk as it was three weeks or a month ago. Prices were firm at the rates which have prevailed during the past four or five weeks, but sellers were rather hanging back, to see whether any further advance is declared at the Birmingham quarterly meeting next Thursday. The coal trade occupied quite an exceptional position, and all colliery proprietors present who raised coal for manufacturing or domestic purposes complained of the dulness of trade, and the impossibility of getting any increase of price, even enough to cover the advance in wages granted in October last.

#### TRADE IN SOUTH WALES.

Jan. 5.—The amount of steam coal exported at Cardiff during the year has been 5,508,088 tons, against 4,897,440 tons in 1880; Newport 1,161,052 tons, against 1,034,310 tons; Swansea 759,989 tons, against 684,717 tons. The amount of coal shipped at the principal South Wales ports up to the end of November last year was 6,857,109 tons. The growth of this trade is remarkable, more especially at Cardiff, where an increase of about 1,000,000 tons annually takes place in the total available for exportation. The amount sent away from Cardiff during the week has been 101,337 tons; Newport, 21,389 tons; Swansea, 15,935 tons. The business now done at the ports is limited by the output, as every available man is employed at the collieries, and a scarcity of labour is beginning to be felt. This is satisfactory so far as the men are concerned, but not so pleasant to the colliery proprietors, who feel that the time has come when some return can be counted on for the losses of the past seven years. As regards the iron and steel trade, the works are making every effort to secure a good season. At Rhymney, where the capital has been increased to 1,000,000*l.* sterling, every improvement has been introduced, and they now compare favourably with the best in the district. The same state of things prevails at Ebbw Vale, while at Briton Ferry a number of puddling furnaces were started on Monday, and a new blast-furnace will be ready in a few weeks. The amount of iron shipped from Cardiff since last report is only 1339 tons, but iron ore is now coming in immense quantities. The copper trade of Swansea shows a falling off in shipments to the extent of nearly 10,000 tons, but the indications of improvement are abundant, and better prices are being obtained. Tough cake is now at 75*l.* per ton, against 62*l.* in 1878; bars 71*l.*, against 58*l.* in the same year. The dispute at the Vernon Tin-Plates Works has been settled, and work is again proceeding. This industry also seems about to revive, and prices are considerably better. The exports for November were 20,746 boxes, against 19,270 boxes in the same month of 1880.

At the Bridgend Police Court, on Saturday, David Jones, manager, was fined 5*l.*; Charles Randle, overman, and David Powell and Griffith Roberts, firemen, were fined 2*l.* each, in addition to nominal fines in each case for minor offences. The manager was summoned for violation of the 6th and 1st general rule; the overman was summoned under the 6th general and 33rd special rule; the firemen under the 2nd and 6th general, and 38th, 40th and 44th special rule. Mr. Rees, the Assistant Inspector of Mines for the South Wales district, visited the Parkslip Colliery on Nov. 4. On that day the quantity of air admitted into the 9 ft. No. 2 range was 10,230 cubic feet a minute, and No. 4 range 8374 ft. a minute. Mr. Rees commenced the inspection at 10 o'clock on the day in question, and examined the No. 4 range, and with the exception of two hard headings, he found the whole of the workings in a bad state. In the main heading, for about 6 yards back from the facing there was a layer of explosive gas of about 12 in. top, and also in the roof in top holes adjoining. In the east face 20 yards heading there was explosive gas about 2 ft. top and about 12 yards back from the facing. Mr. Rees found that there were some men working there, and secured the

names of two of them. He then proceeded to the facing of the 40 yards headings, and found in a layer under the roof, and in all the holes below explosive gas, which only required to come in contact with any light to explode immediately. There was gas which mining men refer to as showing a 1 in. cap, that was there was a flame of that depth above the ordinary flame of the lamp. Mr. Rees did not find any one actually working in this place, but it was not fenced off in any shape or form, so that there was free access to that part of the working. In the west face of the heading—that was the 40 yards heading—there was gas with 1 in. cap again, but this time on the ground, and when the lamp was raised it was found to be in a thoroughly explosive atmosphere.

#### REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Jan. 5.—The Tan-yr-Alit Mine is working well, and there has been a discovery of rich ore at the Old Penpennem Mine. Operations have been commenced in earnest at the Bwlch Grolan Lead Mine, North Montgomeryshire. This mine has long been idle, but a company from Llanidloes seem determined to try what can be made of it. They have some ore at surface, and a tramway to the site of the dressing-floors, some distance off is in course of construction. Work is also busy at the Cwmgwynn Phosphate Mine close by. With the near prospect of a railway to Llangynnog mining and quarrying is taking a fresh start in that district. The people of the remote valley of the Vyrnwy at Llanwddyn, before they are drowned out for the benefit of the Liverpool people, have the satisfaction of seeing most of the appliances of modern science and engineering in their midst; electric lights, electric blasting, American steam excavators, railways, and locomotives in abundance, have found their way over the hilly roads into the valley. The question is suggested why with such an immense undertaking before them the engineers have not gone in for a railway from Llanfyllin to the site of their works? The letters from "Miner" on the Cardiganshire lead mines command respect for their pithiness and good sense. By the way, there is at the Royal Oak, Taliesin, a remarkable work of art in the shape of a portrait of a well-known miner of that region. He is in the act of turning over the gold in his pockets the result of successful mining. It is a picture worth looking at.

#### THE WILD DUCK, OR SPORTSMAN'S ARMS.

"It seems to me," says Old Tom, "it don't look, Uncle Henney, but a little bit since last Christmas, and the time do surely run away quicker than a used to." "I suppose it seem so, Old Tom," said Uncle Henney, "as we get older." "Well," says Jan Temby, "what sort of a dinner did a git, Old Tom, Christmas Day?" "Hold the tongue, Jan," says Old Tom, "I had so purty a little dinner as thee's ever seed for a good bit ago. My old 'oman bought a goose and a gander, and put them in to feed, and what dost a think, Jan, she made them fat with. Iss, so fat as butter. Why, with raw tatoes, and oats and cherk-ashes, and I'll make a bet there wor not a better goose than we had from here to Helston; and then the squab pie (very few here know how to make a squab pie). Why, Jan, thee musn't forget our squab pie till next Christmas." "Well, for my part, Sose," says Jan Jewell, "I would rather be throwing that piece of beef from the table than hurken Old Tom's story about his goose and squab pie." "So you may, Jan, but twas a purty fitty dinner after all." "If I may be so bould," says Mr. Donohoo, "I should like to ask ye how ye make a squab pie." "I believe," says Uncle Henney, "that it is made with apples, onions, spice, pepper, sugar, mutton, giblets, currants, figs, bits of pork, leeks, carrots, &c., all mixed in a deep dish, and covered over with paste." "The Lord save us," says Mr. Donohoo, "and do you expect to live, Old Tom, after eating such a conglomeration?" "Iss, I do," says Old Tom, "and I wish I had one every week; but I would not like to eat that last thing you mentioned—that conglomeration." "Well," says Jimmy Dowd, "now we have another grand Christmas dinner, and all spared to mit once more. I suppose there will be a good deal to say, as many strange things happened since last Christmas. We have often discussed in this here room, when tin was down, and the bals nearly all seat, that hundreds of bals had not been discovered yet, and the new bals would make great fortune when the deep old bals going to work again would seat the Bank of England." "But you see, Jimmy," says Uncle Henney, "that some of our great miners who are gone did not know tin in the stone; and that Capt. (Tom) Teague, Capt. Will Martin, and Capt. Jo Jennings, left the bottom of Treavean 'full of tin.' "Betty Hocken," says Old Tom, "was 'entertained with a disappointment,' and perhaps somebody else will be too. Thee's worked in Penstruthal first working." "Old Tom," says Jan Temby, "what dost a think of that bal?" "I think," says Old Tom, "when a ess a hundred fathom deeper a will be a bal worth tualken about." "And what about the ground to the west of Penstruthal?" "Why, there is West Penstruthal—'Box-better-sett'—then the lodes running on here, and to the mine maidens down get into the moorstone granite, and no mineral will ever live in it. But there is plenty of good new bals north, south, and east of Penstruthal." "It is a wonder," says Uncle Henney, "that the South part of South Frances, the Forest, and Bolenowe, and scores of other good sets in that district, are not worked." "I think tis time," says Jan Jewell, "Becky's flip is so good—to drink 'Success to Mining and a Happy New Year to us all,' and then I dare say Old Tom will make a speech." "I can't make a speech," says Old Tom, "but our boy Jacky is often reading wonderful accounts in the *Mining Journal*. Amongst the rest, about the Cost-book System as being the only protection for working mines." "But," says Mr. Donohoo, "as the Cost-book is of no account beyond Cornwall and Devon, what protection is there without the Limited Liability Act for all the rest of England, Wales, Scotland, and Ireland." "That's more than I can tell," says Old Tom. "There was a great account, too, of the grand mittin the other day at Camborne." "I tell ee," says Old Tom, "tes worth while for a man to be a member, for only hev'n say two or three words, and a fine speech is made for'n in the newspapers. There wor grand speeches about strips, drays, biddles, slime pits, clean water and dirty water, fine tin, raw tin, and all other tin; and with all the great men and all the great inventions, tin is still going down Red River, and other rivers too, only that Red River is found out, and the others are kept secret." "What is your opinion, Old Tom," says Uncle Henney, "about using clear water in dressing? Will it prevent the tin going down Red River?" "No," says Old Tom, "clean or dirty, so long as water is used in dressing tin, all the wise men of the East or the West will never prevent the richest part of it going into the sea, for the richest part of the tin don't stop in the Red River; and I tell ee now as I often tell ee before—that all ore must be dressed dry, or the richest part will be lost. I have skimmed the water in a strake where crushed copper ore was washing, and it gave a produce of 17*l.*, and what was washed and cleaned gave 7 produce. Oh, but you will catch it in the slime pit, you will, just as easy as you will find a needle in a ton of hay." "Here, Old Tom," says Jimmy Dowd, "is a big tumbler of flip for thee, for thee must be dry after that speech." "Hold thee tongue, Jimmy, I could preach a sermon about dressing, for the flip will make a man feel very comfortable in his mind, and full of spirits." "I think," says Jan Jewell, "after Old Tom's speech we ought to have a few words from Mr. Donohoo." "And that ye shall," says that gentleman, "with all the pleasure imaginable. Well, thin, let me tell ye that the O'Donohoo's were in the Holy Land before the Flood, and my ancestor, the Great O'Donohoo and his family, were so high and proud that they disdained to ship with Noah, for the old gentleman very kindly offered them a passage, but rode out the Deluge in a yacht of their own; and steering for Ireland they landed and settled there. From this historical fact ye will persave that my family is the most ancient in the world." "Now that," says Jimmy Dowd, "is something new and worth hurken to, so here's a good health to ee, Mr. Donohoo." "I wonder what is become of the Kerl singers," says Uncle Henney. "They'll soon be here," says Jan Temby, "for they'll smell Becky's flip." No sooner said than done, for at that moment there was a grand sound from the great club-room upstairs. The Forest Gate and Stithian's Choirs mit, and Becky put them all upstair. They sung several anthems and Christmas pieces in grand style. Mr. Donohoo said he never heard better music in Dublin. After a most pleasant evening everyone was pleased, the stirrup cuff







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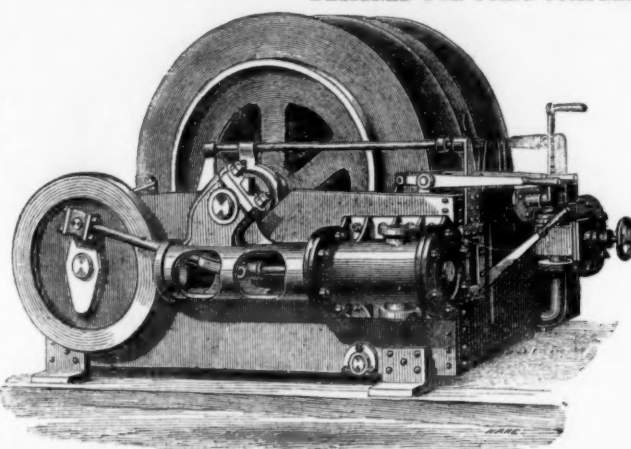
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No. 1 size, 7 in. single cylinder, with 2 ft. drums.  
No. 2 size, 9 in. single cylinder, 2 ft. 6 in. drums.  
A,— 6 in. double cylinder, with 2 ft. 3 in drums.  
B,— 8 in. " " 3 ft. 0 in drums.  
C,— 10 in. " " 3 ft. 6 in drums.  
D,— 12 in. " " 4 ft. 6 in drums.  
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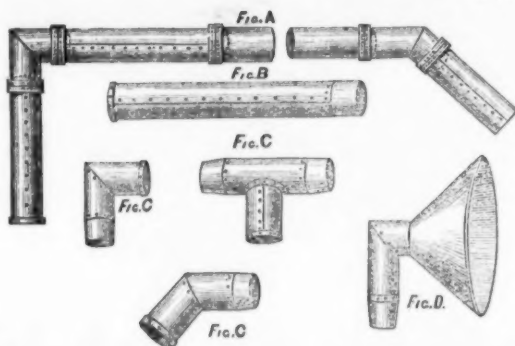
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Fig. A.—Shows the tubes adapted for any variation in direction.

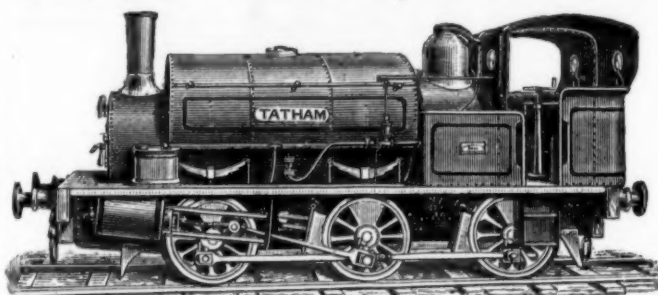
Fig. B.—Straight length of tube.

Fig. C.—Different angle bends.

Fig. D.—Is a hopper to receive air at top of shaft.

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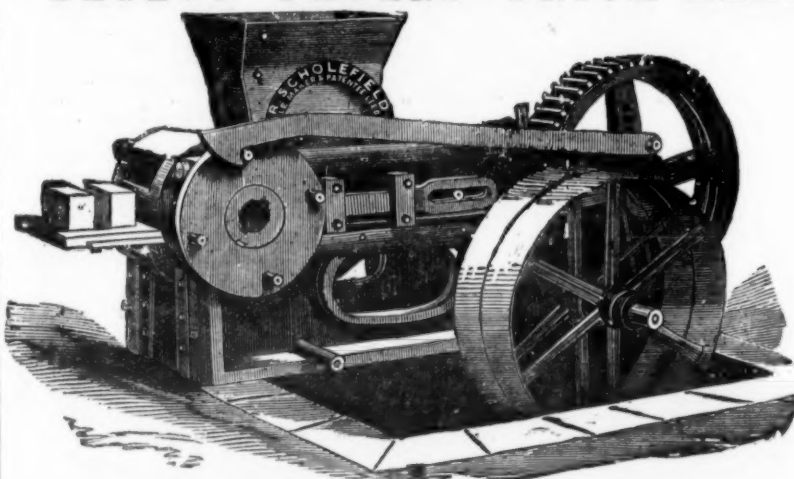
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his PATENT SEMI-DRY BRICK  
MACHINE, and the economical meth-  
od of making bricks by his patent  
machinery from the refuse that is  
taken from the pits during the pro-  
cess of coal-getting, which instead  
of storing at the pit's mouth (and  
making acres of valuable land use-  
less) is at once made into bricks  
at a very small cost, by R. S.'s Pa-  
tent Brick-making Machinery. If  
the material is got from the pit hill,  
the following is about the cost of

production, and the hands required to make 10,000 pressed bricks per day:—

2 men digging, each 4s. per day	8 0
1 man grinding, 4s. 6d. per day	4 6
1 boy taking off bricks from machine, and placing them in barrow ready for the kiln, 2s. per day	3 0
1 boy greasing, 1s. 6d. per day	1 6
1 engine-man, 6s. per day	6 0
1 man wheeling bricks from machine to kiln, 4s. per day	4 0

Total cost of making 10,000 pressed bricks ... £1 8 0, or 2s. 6d. per 1000.

(SETTING AND BURNING SAME PRICE AS HAND-MADE BRICKS.)

N.B.—Where the material can be used as it comes from the pit, the cost will be reduced in digging.  
As the above Machinery is particularly adapted for the using up of shale, bind, &c., it will be to the advantage of all Colliery Owners to adopt the use of the  
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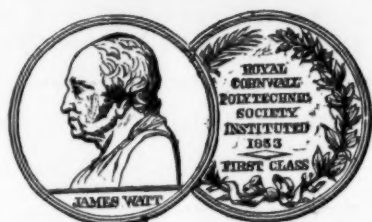
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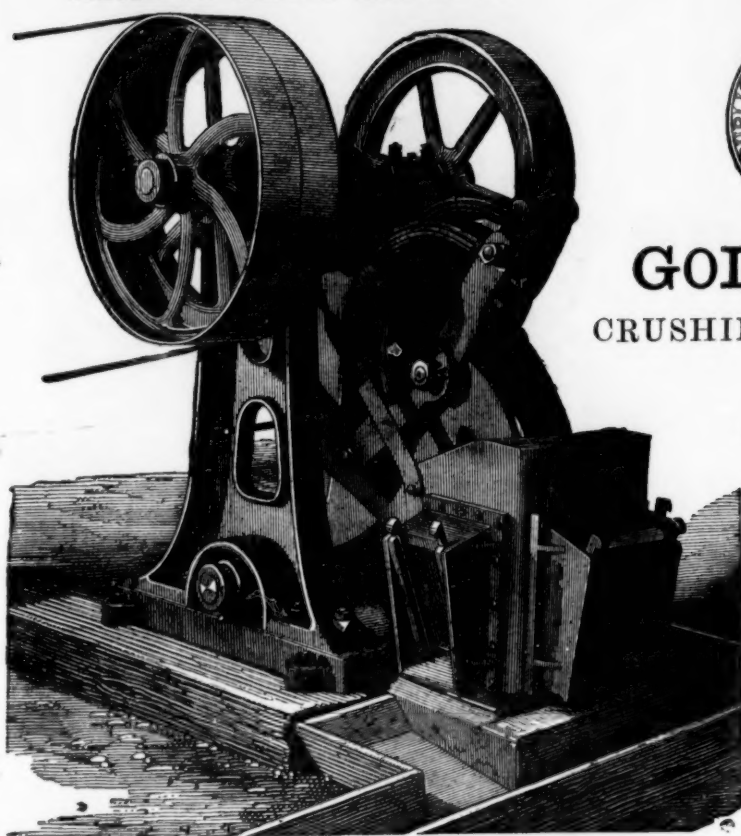
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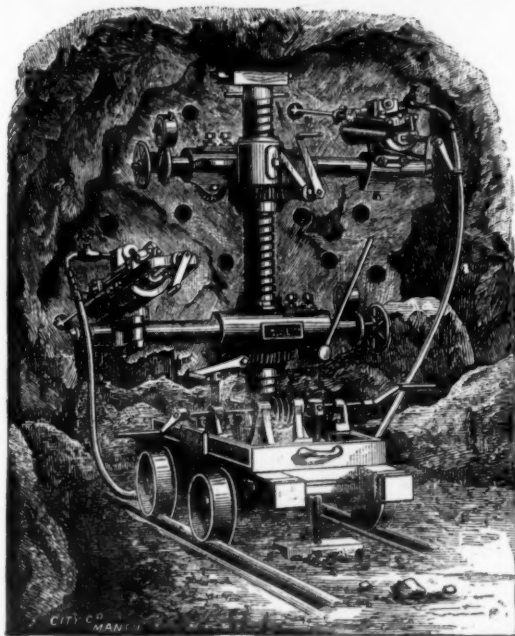
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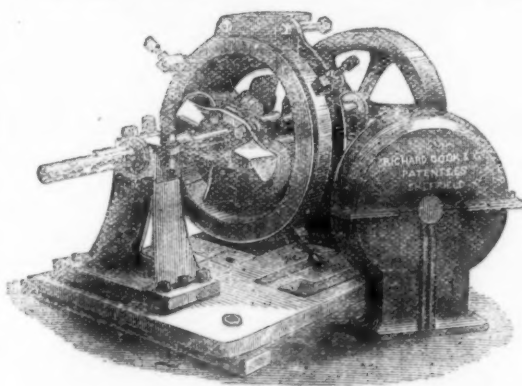


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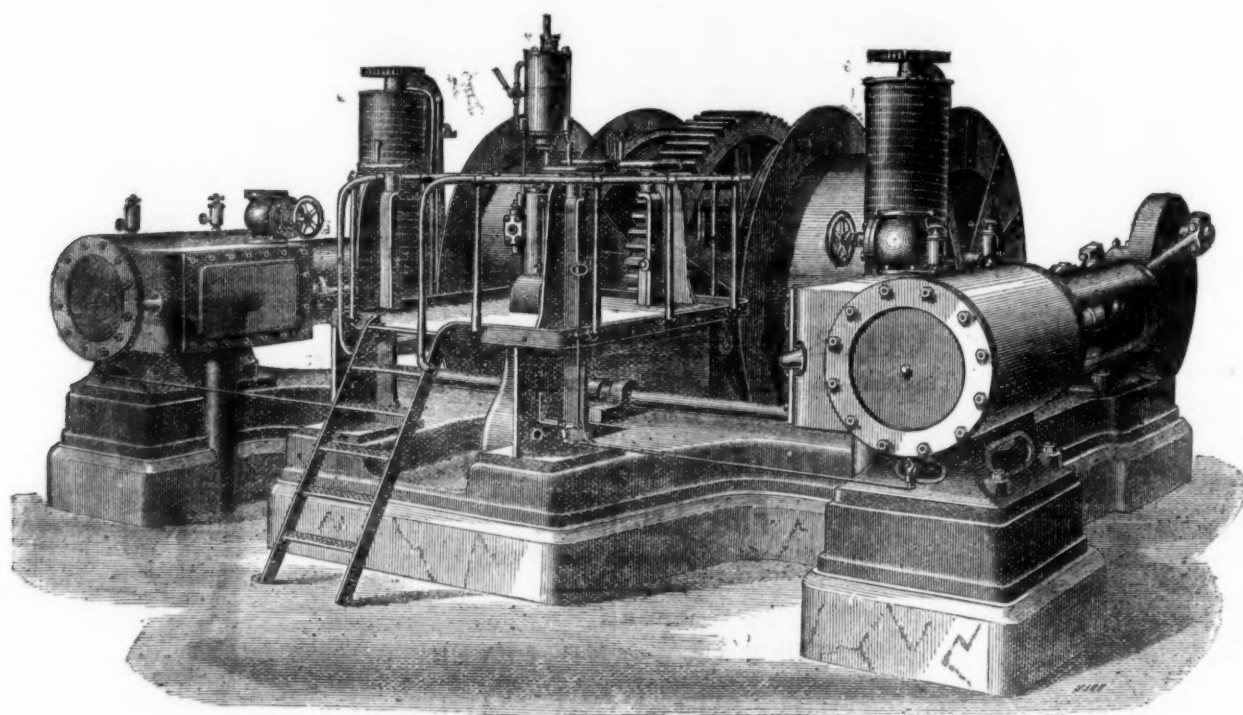
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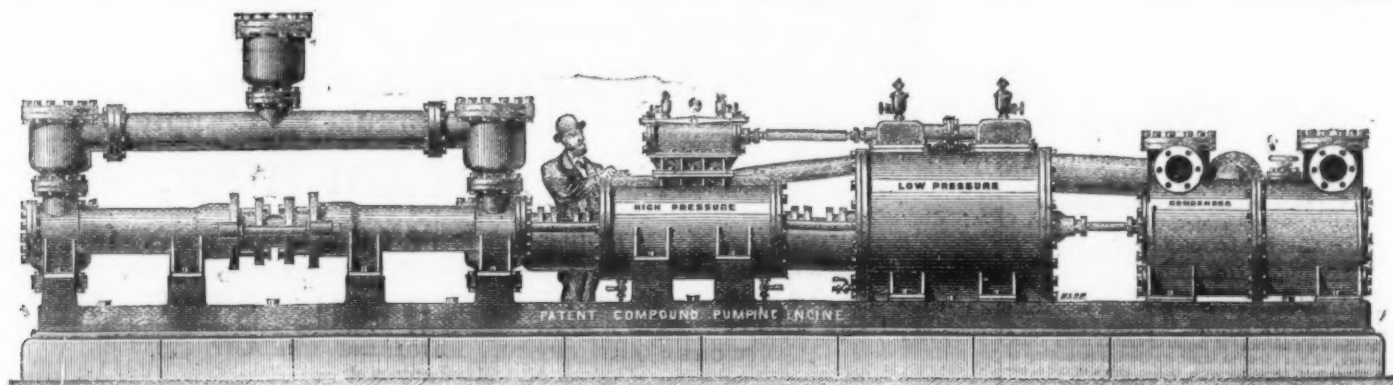
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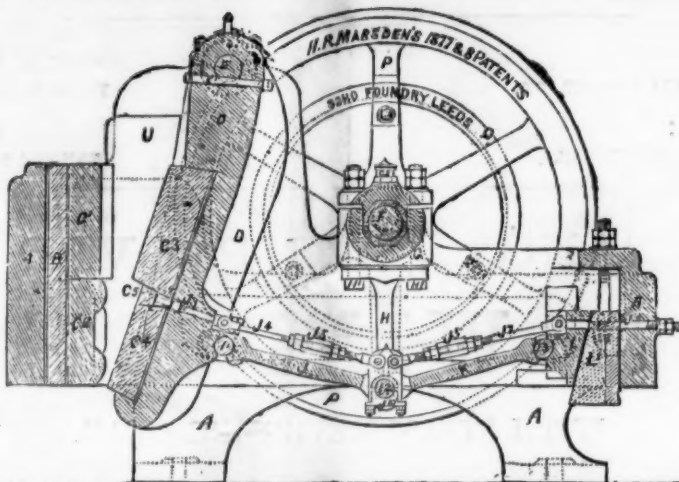
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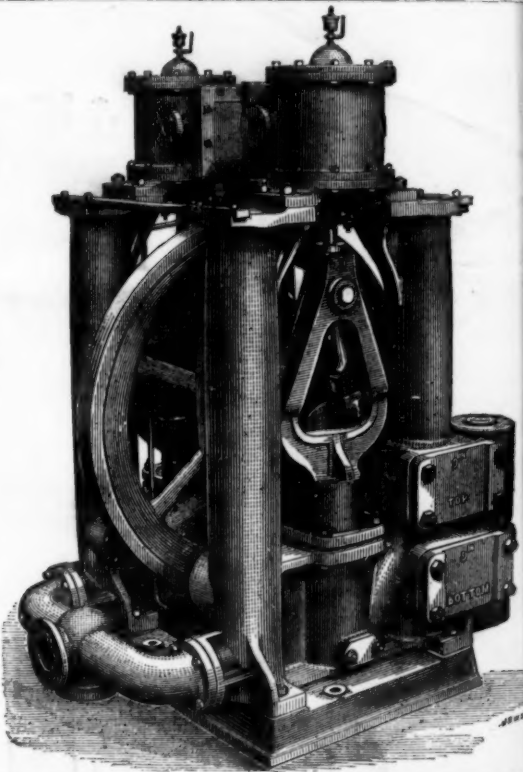
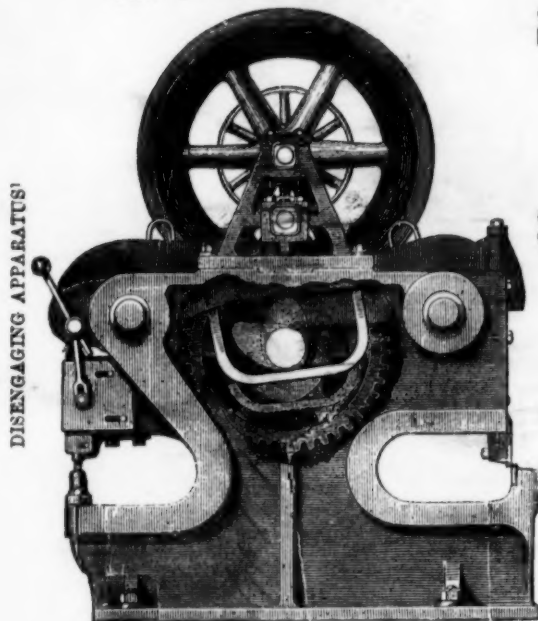
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